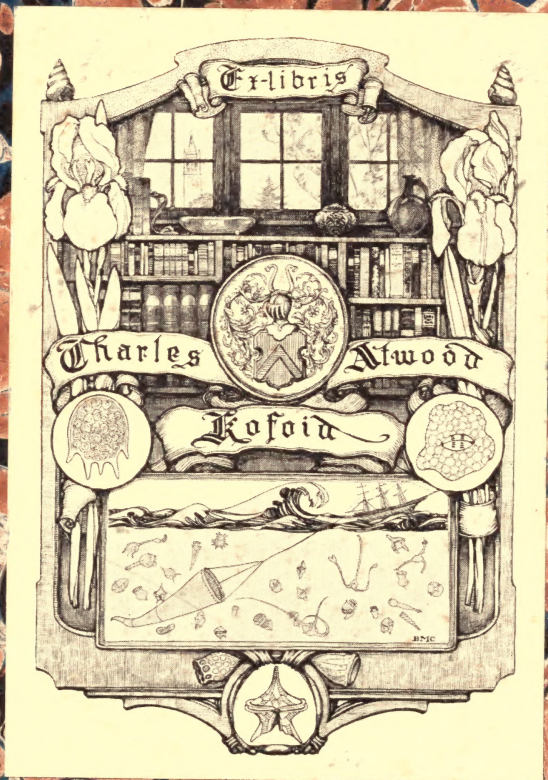
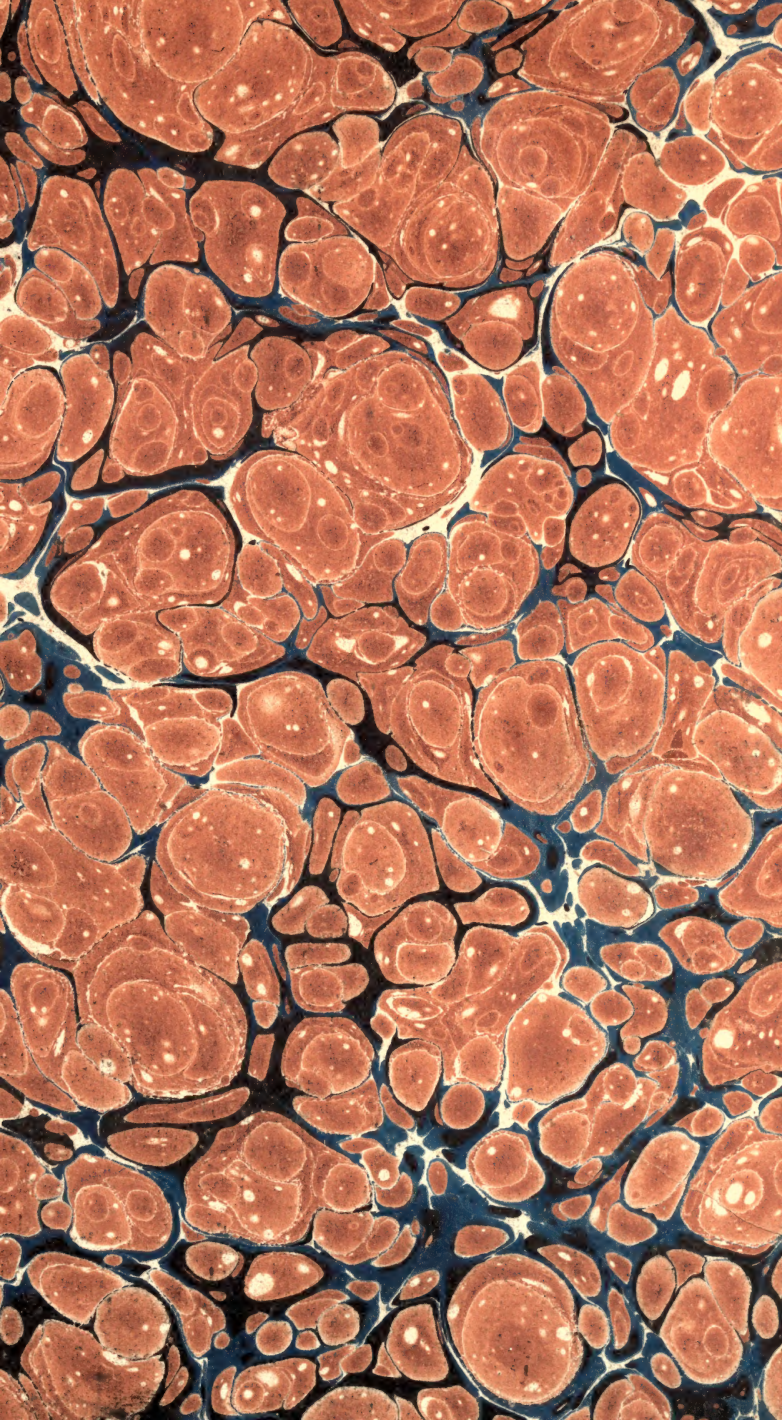


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A

STATISTICAL, POLITICAL, AND HISTORICAL
ACCOUNT

OF

THE UNITED STATES

OF

NORTH AMERICA;

FROM THE PERIOD OF THEIR FIRST COLONIZATION
TO THE PRESENT DAY.

By D. B. WARDEN,

LATE CONSUL FOR THE UNITED STATES AT PARIS,

&c. &c.

VOLUME I.

EDINBURGH:

PRINTED FOR ARCHIBALD CONSTABLE AND CO. EDINBURGH;

LONGMAN, HURST, REES, ORME, AND BROWN,
AND HURST, ROBINSON, AND COMPANY, LONDON.

1819.

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ADVERTISEMENT.

IN this work, it has been the author's object to exhibit as complete a body of information, respecting the progress and present situation of the United States, as the existing sources of information could supply. He has spared neither pains nor expence, in collecting materials; and, besides what he could procure through the ordinary channels, he has been favoured with communications from intelligent correspondents in different quarters of the Union. Throughout, he has been solicitous for the accuracy of his statements, and he has generally given authorities for facts of importance. These he could have easily multiplied, had it been necessary. His information has been drawn almost entirely from original sources; and, indeed, so rapid and extraordinary have been the changes in the state of the country, within these few years, that he could derive but little assistance from

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the labours of his predecessors. Except in the Introduction, where a few general remarks are made, he has seldom indulged in discussion or speculation. His view was rather to put his readers in possession of a full and authentic collection of the most interesting facts regarding the population, industry, wealth, power, and resources of the United States. And he has adopted an arrangement, which, he thinks, will render this information more accessible and more valuable than it would have been if presented in the usual form. This arrangement, he flatters himself, will be considered a material improvement. Although he has used no small diligence to avoid errors, he has no doubt that some will be found in the work. These he leaves to the candour of the reader, trusting that what he has undertaken will be judged of with a reference to the means which exist for its execution, and that where the subjects are so extensive and multifarious, some allowance will be made for unavoidable mistakes and omissions.

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ERRATA.

- Vol. I.—p. 54, 4th line from the bottom, for *healthy* read *un-healthy*.
- Vol. II.—p. 58, 10th line from the top, for 24,500 read 44,500.
p. 211, *Note*, 10th line from the top, for *sidewater* read *tidewater*.
- Vol. III.—p. 218, top line, for *twenty-five* read *seventy-five*.
p. 234, *Table*, last column, for 1836 and 1262 read 18,36 and 12,62.
p. 390, in the table of the expenditure, the sums in the last line are not for the whole year 1815, but for the period from 1st January to 31st March.

INTRODUCTION.

THE people of the United States have not to seek their origin, like other civilized nations, in the obscurity of barbarous or fabulous ages. Their genealogy is too short and too well ascertained to admit of the embellishment of fiction. At a period comparatively recent, their ancestors, consisting of a few families, were detached from the great mass of the European population, and left to their own resources, in a vast wilderness, where they were surrounded by savage enemies, and had many disadvantages to struggle with. In the short space of two centuries, while some of the older states of Europe have scarcely made any perceptible advances, these few families have increased to a great nation, which has taken its place among the most powerful and enlightened states in the world. The sources of national wealth, and the productive powers of man, which are obscurely traced in the slow progress of old and fully peopled communities, are developed here on a gigantic scale. Our knowledge is enlarged by viewing a society constituted on principles to which the old world presents nothing precise-

ly similar, placed in new circumstances, and comprising, within a short period, many of the changes and varieties of condition which other nations have passed through in a long series of ages. Every step in their progress announces some new truth to the world, and their first appearance on the theatre of nations marks a new era in the political history of mankind. It is fortunate that the history of a people whose career has been so singular and instructive is tolerably complete. All the leading events and circumstances which have influenced the fortunes or character of the North Americans, from the first settlement of a few forlorn emigrants, up to the present time, are within the reach of investigation ; and the steps of that astonishing progress, by which a small nucleus of civilized population has expanded to a mighty empire, can be accurately traced.

It was a favourable circumstance for the United States, that the country was colonized chiefly by population drawn from the most enlightened nations of the old world, and at a period when a variety of happy changes had disabused the human mind of some of its worst prejudices. What would have been its situation if peopled by some of the other nations of Europe, is apparent from the state of the Spanish colonies. The English, who formed the leading part of the colonists, had been emancipated from superstition and priestcraft by the Reformation ; they had imbibed more liberal ideas than other nations in politics, and had made greater progress in arts and industry. The first settlers, no doubt, considered their removal to this coun-

try a painful sacrifice, but, after they had acquired strength to maintain themselves against the Indians, the advantages of their situation began to appear. It was an unoccupied world, of the richest soil, and most favoured climate, spread out before a small number of men, who possessed the skill and industry of a mature society. In the ancient world, the arts necessary to draw forth the riches of the earth, were not acquired till its surface was in general appropriated; and the progress of society was checked first by ignorance, and afterwards by vicious arrangements. The colonies mentioned in ancient history exhibit to us the attempts of one tribe, who had advanced a few steps in arts and knowledge, to force back or dispossess another tribe, more rude and ignorant; but in no case was the difference so great as between the English settlers and the Indians,—and in no case did the colonists start so well prepared with all the seeds of moral and political improvement. Most of the old colonies, too, were planted when the prevalence of military habits, and of a dark superstition, with a host of errors and prejudices, checked the march of industry and improvement. The North American colonists, on the other hand, left Europe when the military spirit had no longer a baleful ascendancy; when the effects of industry, the true source of national strength, had begun to develop themselves; when civil liberty began to be understood and valued; when religion was stripped of many of its corruptions; when knowledge was advancing, and society had begun to settle on its right basis. The colonists, placed in their new settlements, had

only to avail themselves of the advantages of their situation. Their society, held together by common wants, and moulded by their circumstances, was disencumbered of many of those corruptions and abuses which time and accident accumulate in all old communities. A fortunate combination of circumstances, by bringing them all under one government, left them free from the distractions of war; and they had no powerful neighbour, jealous of their prosperity, to compel them to load themselves with a great military establishment. They were placed at too great a distance from Europe, to be often embroiled in its quarrels, and yet near enough to share the benefits of its commerce and its improvements. They lived under the protection of the most liberal and enlightened government then in the world; and though they did occasionally suffer from its ignorance or violence, the force of circumstances generally prevailed over the errors of their rulers, and bore them through their difficulties with little injury.

The great source of the advantages the United States enjoy, is the boundless extent of land over which their population is at liberty to spread itself. In speaking of this territory, it is necessary to make a distinction between that part which is actually occupied by the civilized population, to a greater or less degree of density, and that which is still possessed exclusively by the savages. Leaving out Michigan, in which there are but few settlers, and the North-West Territory, in which there are almost none, we have for the boundary, on the south-east and south sides, the sea

and Florida, and on the north-west and west sides, the river St Lawrence, Lakes Ontario and Erie, the Wabash river, part of its course and the Mississippi, including the southern part of Illinois, and the settled part of Missouri. The region comprehended within these limits extends in a north-east and south-west direction, its length, from Maine to Baton Rouge, being about 1700 miles, and its greatest breadth, from Cape Fear to the Wabash, about 650. Its form may be compared to that of a slender cone, with the angles of its base broken off; and it happens that a straight line, connecting the most distant points of this space, Maine and Baton Rouge represents pretty accurately the axis of the cone, keeping very nearly in the middle, between the bounding lines, and dividing the country into two portions, almost exactly equal in extent. It is of more importance, however, to observe, that this line passes, for three-fourths of its extent, over the summit of that elevated ridge, which, first, under the name of Green Mountains, and afterwards Alleghany, or Apalachian Mountains, traverses the United States, in a north-east and south-west direction. These mountains are thus situated fairly in the middle of the country, determining the course of the rivers to the ocean on the one side, and to the Mississippi and the lakes on the other, these latter forming unquestionably the lowest points in the interior of the North American continent. The population of the United States is dispersed over the two sides or declivities of this great central chain, and in the vallies between its different ridges.

This vast country, though peopled with ten millions of inhabitants, still presents, to the eye of a European, the general aspect of a boundless forest. Volney, who visited the United States in 1796, describes the woods as^c covering the surface to the sea shore, interrupted by open spaces, formed by brackish marshes, and by the cultivated tracts around the cities, but growing thicker and thicker as you advance into the interior. In the region west of the Alleghanies, the forest is still less broken by cultivation than on the east, but large openings, called prairies, occur, covered only by low shrubs, the trees being either destroyed by the ancient conflagrations of the savages, or their growth prevented by the nature of the soil. In such newly settled districts, growing wood is considered as an encumbrance to be removed, rather than a commodity to be advantageously disposed of. This circumstance has given a bias to the natural taste which surprises a European. Trees, which, in other countries, are considered essential to the beauty of a landscape, are here, generally, regarded as a deformity or a nuisance. Though the population of the United States has doubled since Volney wrote, and the clearing of land, with other improvements, has increased in a much higher ratio, a recent traveller describes Connecticut, one of the most densely peopled states in the Union, as having half its surface uncultivated. But this is, in some measure, the consequence of the rapid progress of the country. Wood, besides all its other uses, supplies the inhabitants with fuel, and has already acquired such a value in the neighbourhood of towns, that

land covered with trees brings as high a price as cleared land of a good quality.

The Alleghany chain is more remarkable for its length and breadth than its height. Perhaps there is no tract of country in the world, that preserves the mountain character over so great a space, with so small an elevation. The mean height of the Alleghanies Proper, is only from 2000 to 3000 feet, about one-half of which consists of the elevation of the mountains above their base; and the other half, of the elevation of the adjoining country above the sea. To this height, the country rises by an irregular but almost imperceptible acclivity, from the ocean, at the distance of 200 or 300 miles on the one side, and from the channel of the Mississippi, at an equal distance, and by a still more gentle acclivity, on the other. A gradual elevation of 1000 or 1200 feet, upon a horizontal surface of 200 or 300 miles, would give the surface of the country, on the eastern side, an average rise of from three to four feet in the mile, and from two to three feet on the western side, making allowance for the height of the channel of the Mississippi. This small degree of inclination accounts for the great extent of inland navigation which the United States enjoy. Besides, the beds of the rivers are generally lower than the country near their banks, and their winding course also lessens the rapidity of their descent. In the northern parts of the Union, however, from the greater proximity of the mountains to the sea, the descent is more rapid, the navigation shorter, and more obstructed. By the course of the Missis-

sippi, Ohio, and Alleghany rivers, vessels ascend over an inclined plane of 2400 miles in length, to an elevation perhaps of 1200 or 1400 feet, without the help of canals or locks. The situation of Europe, as to inland navigation, is extremely different. The Danube, the largest river in its southern division, descends from the Alps, which have a mean elevation of 9000 or 10,000 feet, and after a course of 1600 or 1800 miles, falls into the Black Sea. Its course is not much more than two-thirds of that of the American rivers above mentioned, while its source is nearly three times higher, implying a rate of descent four or five times greater. The navigation of the Danube is, accordingly, confined to detached portions of its course. The highest summits of the Norwegian chain, which traverses a peninsula of from 250 to 450 miles in breadth, are about 8100 feet. The Pyrenees rise, in some parts, to 12,000, and have a mean height of 8000 feet. The different ridges which intersect the interior of Spain have an elevation from 3000 to 10,000 feet. The greatest height of the Apennines is 7800 feet. The Carpathian mountains, which, from their situation, have a better title than the Alps to be considered as the central ridge of Southern Europe, rise 8600 feet above the sea; their mean elevation may probably be 5000 feet. The mean height of mount Hæmus, which may be considered as a prolongation of the Alps, is probably as great. And as the breadth of Europe, from the Adriatic and Egean Seas, to the nearest point of the Baltic, is from 700 to 1000 miles, we have, within that distance, two chains of mountains

of 5000 feet elevation, and these mountains give rise to four series of rivers; one series flowing to the Baltic, and one to the Gulfs of the Mediterranean, while the Danube, occupying the bottom of the central valley, is the common receptacle of the other two. Thus, the surface of Europe is every where broken by high mountains placed near the sea, and near one another; the vallies are, consequently, narrow and steep in their sides, and the courses of the rivers short and rapid. On the other hand, the breadth of the North American continent, from the ocean to the Mississippi, at the latitude of 40° , is above 800 miles, and in this space there is but one chain of mountains, and this chain has but about one-half of the elevation of the two mountain chains included within a similar space in Europe. The American rivers, consequently, fall only from half the altitude in a course of twice the length, and their rate of descent must, therefore, be, generally speaking, but one-fourth of that of the others. Yet the Alleghany chain, though so much lower than the European mountains, exceeds them all in length, and probably in breadth. As the plain country eastward of the Mississippi may be considered as a prolongation of the sides or declivities of the Alleghanies, so the country westward of that river may be considered as a prolongation of the sides of the Rocky mountains. From the Mississippi to the Pacific Ocean, at the parallel of 40° , is about 1150 miles, and the Rocky mountains, which crown this gradually swelling surface, rise only to the height of 9000 feet. This is an elevation three times as great as that of the Alleghanies, and it is remarkable, that the

Mississippi, which is the common reservoir of the streams descending from both, is about three times farther from the higher chain than from the lower, so that the declivity on both sides of the immense basin, included between these mountains, is nearly the same, and the streams flowing from the Rocky mountains are as susceptible of navigation as those from the Alleghanies. This peculiarity in the surface of the North American mountains is undoubtedly an advantage. Had the mountains been lower, they would not have afforded a sufficient declivity to carry off the waters from a continent of such a breadth. Had they been higher, they would have given these waters too rapid a descent for the purposes of navigation; a part of the soil would have been consigned to the dominion of eternal frost, another part rendered incapable of cultivation from its steepness, and a barrier would have been placed between the sections of the population on their opposite sides. In a community, held together by no other ties than those of mutual advantage, common views, and common interests, the influence of such a circumstance is not to be disregarded.

With regard to soil, the territory of the United States may be classed under five grand divisions. 1. That of the New England states, beyond the Hudson, where the Alleghanies spread out into a broken hilly country. The soil here is, in general, rocky, has but little depth, is barren in many places, and better adapted for pasture than tillage. 2. The sandy soil of the sea shore, commencing from Long Island, and extending to the Mississippi, with a breadth varying from thirty to a hundred miles. This tract, from the

Potomac southward, approaches to a horizontal plain, very little raised above the sea, traversed through its whole breadth by the tide-water at the mouths of the great rivers. The surface, which consists of sea sand, is scarcely capable of cultivation, and produces nothing but pines; except on the banks of rivers, and in marshy spots, where rice is raised. 3. The land from the upper margin of the sandy tract to the foot of the mountains, from ten to two hundred miles in breadth, the soil of which is generally formed from the alluvion of the mountains and the decomposition of the primitive rocks beneath the surface. This tract is fertile, and generally well adapted for tillage. 4. The vallies between the ridges of the Alleghanies, the soil of which is various, but rather richer than that of the tract last mentioned. 5. The extensive region west of the Alleghanies, which is bottomed on limestone, is well watered, inexhaustibly productive, and contains, perhaps, as large a proportion of first rate soil as any country in the world.

In a country having so many varieties of soil, and extending through fifteen degrees of latitude, there must be a considerable diversity in the agricultural productions. There are some, however, common to every section of the Union. Maize, or Indian corn, an indigenous American plant, is cultivated from Maine to Louisiana, but succeeds best in the middle and western states. It is a most valuable vegetable, adapted to a greater variety of soils and situations than wheat, and yielding generally double the produce. Land of the first quality has been known to give 100 bushels an acre. The annual exports of

this article are from one and a half to two millions of bushels, the greater part of which goes to the West Indies. The maple grows in all the states, but thrives best in the middle and western states. In Vermont, which joins with Canada, the quantity of sugar made from this tree in 1810 was estimated at 1,200,000 lbs. ; in Ohio, 3,000,000 ; in Kentucky, 2,500,000 ; Virginia, 1,700,000 ; Pennsylvania, 1,000,000 ; in the whole country, nine and a half millions of pounds. Wheat is also cultivated from one extremity of the Union to the other. In the middle and western states, and in the uplands of the southern states, it is raised of a quality equal, if not superior, to the best produced in Europe ; but in New England, and in the extreme southern states, the crops often fail, and other productions are found more profitable. The annual exports of flour for 1815 and 1816 were about 800,000 barrels, valued at seven millions of dollars. The cultivation of tobacco begins in Maryland, about the parallel of 39° or 40° , and continues through all the southern states, and partially through the western states, particularly Kentucky and Tennessee. It forms the staple of Maryland and Virginia, where it is raised to a greater extent than in any other part of the Union. The annual exports of this article for 1815 and 1816 were about 77,000 hogsheads in the raw state, besides 800,000 lbs. in the manufactured state. The soil and climate favourable for cotton is not found farther north than about 37° , though it can be raised as far north as 39° , on both sides of the mountains. This useful plant was first cultivated for exportation

so late as 1791. It is now raised in vast quantities from the river Roanoke to the Mississippi, and forms, indeed, the staple of all the southern states from North Carolina to Tennessee, and the leading export of the Union. The best grows in South Carolina and Georgia, in dry situations, upon the sea-coast; but it is also raised in the middle and upper country. It does not succeed well in Kentucky, Missouri, or Indiana, though it is produced there for domestic use. The quantity exported in each of the years 1815 and 1816 was about eighty millions of pounds, valued in the latter year at twenty-four millions of dollars, being about one-fourth of the whole exports. The rice crops, which require great heat and a marshy soil, commence about the same parallel with the cotton, and have nearly the same geographical range. This vegetable is cultivated to a great extent in the Carolinas, Georgia, Louisiana, and Mississippi, and as high as St Lewis in Missouri. The average annual exports for 1815 and 1816 were about 133,000 tierces, valued at 3,100,000 dollars. The sugar cane grows in low and warm situations, as high as the latitude of 33° , but the climate favourable for its cultivation does not extend beyond $31\frac{1}{2}^{\circ}$. It is now cultivated to a great extent in Georgia, Mississippi, and Louisiana. The quantity made in the last mentioned state in 1814 was estimated at sixteen millions of pounds; and there is no reason to doubt, that, in a few years, the quantity raised will supply the domestic consumption of the United States. It has not yet become an article of export, except in trifling quantities. Oats, rye, and

barley, are raised in all the northern and in the upper districts of the southern states. The oats are chiefly used for horses' food; the rye for distillation. Of the barley two crops in a season are sometimes obtained in warm situations. Hemp of an excellent quality grows naturally in the western states; and the cultivation, both of it and flax, has become an object of attention throughout all the states within these few years. Of flax-seed great quantities are exported. The vine can be raised as far north as Pennsylvania, and grows spontaneously in most of the southern and western states. Wine of a good quality has been made in different parts of the country; and, when the culture of the plant is rightly understood, it is believed that the United States will have a sufficient supply of this favourite beverage within themselves. Hops also grow naturally in the middle and western states. Indigo was formerly cultivated as an article of export in the southern states, but has been generally abandoned for the more profitable productions of cotton, rice, and sugar. The mulberry tree grows spontaneously; and the trials made formerly, show the practicability of establishing the manufacture of silk to any extent required. The increase in the value of the land, and the price of produce in the middle and eastern states, within the last fifteen years, has been the means of introducing an improved system of husbandry. Many agricultural societies have been formed, a rotation of crops has been introduced: by the use of manure, and especially by the marvellous powers of gypsum applied to this purpose, soils considered as exhausted have had

their fertility renewed. Much attention has been bestowed on the cultivation of the indigenous and foreign grasses, and in adapting the various species to the nature of the soil. In the middle states, the formation of meadows is conducted on the most improved principles. Great exertions have also been made to improve the breeds of domestic animals, and Pennsylvania is particularly distinguished for the size and beauty of its horses and horned cattle. Merinos, of full and mixed blood, are now spread over all the northern, middle, and western states, and neither in the quantity nor quality of their wool is there any appearance of degeneracy. The whole number of sheep in the United States has been estimated at eight millions. In Britain, the number has recently been estimated at thirty millions. *

The United States have been not less favoured in their mineral riches, than in the fertility of their soil. Iron, coal, lime, and salt, productions of primary necessity, exist in great abundance. Some of the ores of iron are found in every state in the Union, and mines of this metal are worked in New Hampshire, Vermont, Rhode Island, New York, Connecticut, New Jersey, Pennsylvania, Virginia, and North Carolina. In 1810 there were 530 furnaces, forges, and bloomeries in the United States, and the annual value of iron, including manufactured, was estimated at twelve or fifteen millions of dollars. The United States are supplied with copper from Mexico and other countries,

* By Mr Curwen, in his Speech, 25th April 1817.

but ores of this metal exist in most of the states, and in the north-west territory they are said to be in great abundance in situations of easy access. Lead is wrought in Massachusetts and Virginia, but is chiefly procured from Missouri, where the supply appears to be inexhaustible. Mercury is said to be found in Kentucky, and silver in several parts of the Union, but neither probably in quantities to be worked with advantage. The supply of coal is, perhaps, equal to that of any country in the world. The coal formation is believed to extend on the western side of the mountains, from Lake Ontario to the river Tombigbee, a distance of 800 or 900 miles. Coal exists also on the eastern side of the Alleghanies, in Rhode Island, New York, Connecticut, Pennsylvania, Maryland, and Virginia. The extensive beds on the river Appamatox employ 5000 persons, and, when wood becomes scarcer, there is no doubt that other beds neglected at present will be opened. Limestone is abundant through all the western states, forming the general basis of the country between the Alleghanies and the Mississippi; and it is also found partially on the eastern side of the mountains. Gypsum abounds in the middle and western states, and will be extremely valuable from its importance as a manure. Slate is found in New York, Pennsylvania, New Jersey, South Carolina, and Tennessee; in the two first states quarries of it are wrought. Of nitre, Kentucky, Tennessee, and Virginia, furnish quantities more than sufficient for the consumption of the whole states. The first of these states afforded an annual supply of 400,000 lbs., besides 300,000 lbs. of powder, during the

late war. Salt is imported or obtained from the sea, on the eastern side of the mountains ; on the western side it is procured from salt springs, which are so numerous, and so copious in their produce, all over the western states, and the Missouri territory, that it is believed a salt formation accompanies the great coal formation from Lake Ontario to the river Tombigbee, extending westward, perhaps, to the Rocky Mountains. Thus, in the distribution of mineral productions, it will be observed, that those quarters of North America which are too remote from the sea to import articles of this description, of a bulky nature, or required in great quantities, are most abundantly supplied by nature. With coal, lime, and salt, the western division of North America is, perhaps, more amply provided than any other country in the world. The importance of this advantage to the future progress and prosperity of the country need not be insisted on.

The surface of the territory of the United States on the east side of the Mississippi, is estimated at 900,000 square miles. Leaving out the parts in which there are few or no settlements, the space within the limits formerly described, may be estimated, in round numbers, at 700,000 square miles ; a surface about seven times as large as Britain and Ireland, or four times as large as France. A population of ten millions spread over this surface, would give about fourteen persons to the square mile. The population of Britain and Ireland, in 1811, was about 160 to the square mile ; that of France is about 170, of Spain 74, of Austria 108, of Russia in Europe 22. The population of the United

States is very unequally spread over the country. In Massachusetts, where it is densest, there were in 1810 about 75 persons to a square mile ; in Connecticut 65 ; in Maryland 35 ; in Vermont 23 ; in New York 17 ; in Virginia 14 ; in Kentucky 10 ; in Georgia, where the population is thinner than in any of the old states, there were but 4 persons to a square mile. Of course the proportions will be somewhat higher now. In Illinois, Mississippi, and Alabama, the number of inhabitants is yet extremely small. If the whole of the country over which the population is now spread were peopled to the density of Massachusetts, it would contain fifty-two millions ; and in this computation the north-west territory, Michigan, and the northern parts of Illinois, are not included.

Let us now extend our view to the vast region beyond the Mississippi, to which the United States lay claim. It is of little consequence, here, to follow boundaries nicely, because the question is not so much what the United States are entitled to claim, as what they are likely to possess ; and it is not to be supposed, that a continually growing population will be confined, in its expansion, by an imaginary line drawn in a desert. The ultimate boundaries of the United States must be determined by the enlargement of the population in the adjoining countries. What this may be, it is impossible to anticipate ; but let us assume, what appears highly probable, that the people of the United States will ultimately spread themselves over the whole North American continent, west of the Mississippi, between the parallels of 30° and 49° , as far as the Pa-

cific Ocean. This will be found to add about 1,800,000 square miles to the territory east of the Mississippi, and, putting both together, the area of the United States, thus enlarged, will be 2,700,000 square miles. A surface of such extent, if peopled to the density of Massachusetts, would contain two hundred millions, or four hundred and thirty millions if peopled to the density of Great Britain and Ireland. This country, though considerably larger than Europe, does not embrace, perhaps, more than one-half of the North American continent. If the population of the United States continue to multiply, in the same proportion as hitherto, it is demonstrable, that the two hundred millions necessary to people this vast territory will be produced within a century.

The division of the old territory among the different states is very unequal. Rhode Island has a surface of 1580 square miles ; Delaware, 2200 ; Massachusetts, 6250 ; Maryland, 10,000 ; South Carolina, 24,080 ; Pennsylvania, 44,500 ; New York, 55,000 ; Virginia, 70,000. It may assist our ideas of the extent of these states, if we compare Massachusetts with the Grand Duchy of Tuscany ; Maryland, with the Dutch Republic ; New York, or Pennsylvania, with England ; Virginia, with Great Britain ; and the two states of Virginia and Pennsylvania, with France. The present number of states is nineteen.* There are, besides, four territories on the east side of the Mississippi,—Alabama, Illinois, Michigan, and the North-west Terri-

* Increased to twenty by the admission of Illinois in 1818.

tory, which will be received into the Union in a few years. If we add to these Florida, which, in all probability, must, sooner or later, be annexed to the United States, and supposing that Maine shall, at some future period, be disjoined from Massachusetts, then the number of states, east of the Mississippi, including Louisiana, will ultimately be twenty-five. If we again suppose the 1,800,000 miles west of this river, between the parallels of 30° and 49° , to be divided into states, similar to the new states of Ohio, Indiana, and Illinois, from 40,000 to 50,000 square miles each, we shall have about forty additional states, or, in the whole, sixty-five states.

No circumstance connected with the United States has attracted so much attention as the rapid growth of the population. The principle of increase operated so feebly and slowly in the old countries of Europe, that till the United States had made some progress, its power was not known. Its effects here show with what extraordinary rapidity and ease a powerful nation may be raised up from a few families, providing they have room to spread themselves, possess the cardinal qualities of intelligence and industry, and enjoy the blessing of freedom ; as the history of other colonies show how the greatest external advantages may be rendered abortive by the debasing operation of religious bigotry and a slavish spirit. The unexampled progress of population in the United States has bestowed a new value on the vast unsettled regions of the earth, and entitles us to look forward to a period, much nearer than was once supposed, when colonies

from the overpeopled nations of Europe will carry the knowledge and arts of civilized society into the remotest countries, and spread them over the whole habitable world. The increase in the inhabitants of the United States is the more gratifying, as it affords decisive evidence of their superiority in point of comfort over those of all other countries. It indicates that want, the scourge of mankind, and the fruitful source of misery and crime every where else, scarcely exists among us. This is a proud distinction. The rate of increase appears not to have varied much, as the first permanent settlement was made in 1611, and an original stock of 10,000 persons, supposing this number to have come over in the first twenty years, with a very moderate allowance for importations afterwards, would, at the present rate of increase, produce the existing number. The progress would become rapid after the colonies had acquired sufficient strength to feel themselves secure from Indian hostility, and would not experience a retardation in any district, till the difficulty of obtaining good land overbalanced the advantages resulting from condensed numbers. The population at present doubles once in twenty-three years, so that in ninety-two years it doubles four times, or increases sixteen fold, and in a century about twenty-fold. This supposes an annual augmentation of three *per cent.* or one thirty-third part. The rate of increase for the ten years ending 1800, and the ten years ending 1810, as ascertained by the census, is almost precisely the same, and agrees very nearly with the ratio of three *per cent.* being 1.35 in the former, and

1.36 in the latter, including the population of Louisiana, or 1.347 excluding it, while the true increase at three *per cent.* is 1.344. Taking the present population at ten millions, the annual increment or excess of births over deaths must be 330,000, and this shows how inconsiderable the effect of any supposable number of European emigrants must be upon the amount of the population of North America. The nearest approximation to this rate of multiplication in Europe is probably to be found in Ireland, where the population is believed to have doubled within the 28 years ending in 1805; but this statement does not rest upon an actual enumeration, and the effect has been the reverse of beneficial. In England, the population, according to the best accounts, has exactly doubled in the hundred years, ending in 1811, while that of Scotland had only increased one-half in the same period. According to Euler's table, the rate of increase in England implies an annual augmentation of $\frac{1}{140}$, or something less than the two-thirds *per cent.* The yearly addition to the population, or the excess of births over deaths, would, in this case, be 75,000, but must be actually much greater to supply the drain occasioned by the colonies. Population has, therefore, increased ten times as fast in the United States, as in England during the last century; and yet the population of England has probably advanced faster than that of any of the continental states of Europe except Russia. Canada and Mexico, however, from the similarity of their situations, present better data for comparison. The population of the former, according to the

official returns of 1764, and 1783, the only enumerations to be depended on, was 76,275, and 113,012, showing an annual increase during these nineteen years of about two *per cent.* which makes the period of doubling about 36 years. Canada was colonized about the same time with the United States; and if it be less favoured in climate and soil, on the one hand, it should be taken into account, on the other, that the influx of British emigrants must have had a more sensible effect in raising the numbers where the original stock was so small. M. Lambert, who was in the country in 1808, estimates the number of inhabitants at 200,000. Mexico, which was colonized ninety years before the United States, and under more favourable circumstances, had, according to the official returns in 1793, only about 4,500,000 inhabitants, of which nearly one-half were Indians. The supposition of Humboldt, grounded on estimates of births and deaths, that the rate of increase, if not checked by extraordinary casualties, would make the population double in nineteen years, is totally inconsistent with the anterior progress of the colony. An original stock of 10,000 persons, without allowing any thing for subsequent supplies from Spain, or for intermarriages with Indians, would by doubling every thirty-five years, produce the present Creole and mixed breed population.

In the period between 1790 and 1810 the free citizens of the United States increased rather faster than the slaves, but this arose from the abolition or discontinuance of slavery in several states. For, in the slave

states generally, the proportion of slaves increased. In the two Carolinas, in 1790, the slaves were to the freemen as 10 to 21; in 1810, as 10 to 17. In Virginia, and the other southern states, the change was of the same kind; but, in Maryland, the proportion of slaves diminished; and in Delaware, New Jersey, and all the states farther north, not only the proportion, but the actual number diminished. The number of free persons in 1810, in all the states, including Louisiana, was to the number in 1790 as 187 to 100; the slave population as 170 to 100; the whole population as 184 to 100. The slaves increased more rapidly during the last period of ten years than during the first, in the proportion of 133 to 128. The slave trade being abolished only in 1808, it is impossible to say how much of this increase is to be ascribed to importations, but the census of 1820 will throw light on this important point.

Slavery is the grand evil in the United States, and, unfortunately, it is one for which it is difficult to devise a remedy. Hitherto it has grown with the growth of the nation; but its abolition, in several of the states where it once existed, shows that its total extirpation may yet be accomplished. The period of its natural termination will be, when the employment of negro slaves becomes less profitable than that of free labourers. And this will take place when wages are reduced by the increase of the white population, and when improvements in husbandry have rendered intelligence and skill of greater value in workmen. This period, however, may yet be distant, and when

it arrives, the difficulty felt at present, as to how the discharged slaves are to be disposed of, will then apply with increased force. It is to be hoped, that, among an enlightened people, a sense of the moral and political evils it produces, will lead to its gradual abolition before a remedy becomes very difficult.

The increase of the *free population* in some of the older states was very small between 1790 and 1810. If we express the population at the former period by 10, it will scarcely exceed 11 at the latter in Rhode Island and Connecticut; in Massachusetts and Maryland, the increase was from 10 to 12 nearly; in Delaware, and North Carolina, and New Jersey, from 10 to 13; in New Hampshire and South Carolina, from 10 to 15; in Pennsylvania, from 10 to 18; in Maine, from 10 to 24; in Vermont, from 10 to 25; in Georgia, from 10 to 28; in New York, from 10 to 30; in Kentucky, from 10 to 53; and in the country beyond the Ohio, from 10 to 83. The mean of the whole must be 10 to $18\frac{1}{2}$; or, more accurately, 100 to 187. States where the proportion falls below the mean may be considered as sending out supplies to those where it rises above it.

Where the principle of increase is so active, the proportion of young persons is necessarily much greater, and of aged persons much smaller, than in countries where the population is stationary. This becomes evident when we reflect, that, since the inhabitants of the United States quadruple their numbers in forty-six years, a person who is now above this age is the representative of a society four times smaller than that

in which he lives, and was born at a time when the births were but one-fourth of what they now are. In the same way, a person above seventy years of age belongs by his birth to a society eight times less than that in which he lives; or the present generation will furnish eight times as many men of the age of seventy as that in which he was born. Hence, also, the older states, where the population is least progressive, furnish the greatest proportion of aged persons, and the newer states the greater proportion of young.

Of 1000 persons in Connecticut, according to the census of 1810, 290 were under ten years of age, and 169 above forty-five years; but in the district of Maine, which added fifty *per cent.* to its population within the preceding ten years, there were in the same number of persons 369 under ten years of age, and 119 above forty-five. In the middle and southern states, the persons under sixteen form almost exactly one half of the population, or 502 in the 1000. But in Europe they are estimated to be only 331 in the 1000, and in England, according to the Carlisle Tables, 363 in the 1000.* The persons under middle age who remove from the thickly settled districts to the new states, and who either have families, or soon obtain them in their new situations, increase the proportion of young persons in the places they go to, and make the proportion of old persons greater in the places they have left.

Many travellers express surprise that the population of the United States should be spread over so great a

* Malte Brun, *Geog.* Tom. II. p. 574, and Milne on Annuities. p. 404.

surface when there is still so much land unoccupied in the eastern parts. But it is obvious that this must continue to be the case for a long time to come. Land of the first quality is, naturally, first occupied and brought into cultivation, and so long as land of this description can be had, in sufficient quantity, the price of corn will remain too low to admit of inferior soils being cultivated. But around the great cities, and generally in places where population is dense, there will not be a sufficient quantity of first rate soil to furnish the necessary supply of corn, which must, therefore, be raised on soils of the second quality, and at a greater cost. This, however, will not be done, so long as corn can be brought, at a less expence, from first rate soils at a distance. It follows, that while good land abounds at some distance, and the means of transporting its produce from one place to another are easy and cheap, there will be little inducement to cultivate very inferior soils, even in the most thickly peopled districts. Now, this is precisely the condition of the United States. They have an extensive and fertile back country, with the natural means of communication abundant and easy, and it costs less to raise corn in the rich lands of this back country, and convey it to Baltimore or New York, than to raise it on the worst soils around these cities. Hence, it will be invariably found, that, in the neighbourhood of populous cities, the price of corn has risen so as to render the cultivation of land of the third or fourth quality profitable. Thus the prices in Philadelphia are about double of those in the western parts

of Pennsylvania. But in distant places, where prices are low, only land of first and second quality makes an adequate return of profit, and in very remote districts, none but the very best soils can raise corn at so low a rate as to bear the expence of sending it to market.

One consequence of this state of things is, that rent exists in a very limited degree in the United States. It is now an admitted principle, that rent does not arise till the increased demand for corn renders it necessary to have recourse to inferior soils. When this takes place, farmers find it more advantageous to pay for the use of the good land, than to take the inferior for nothing, or to purchase it for a trifling sum. Thus rent begins, and as recourse is had to soils of a worse and worse quality, the good lands continue to rise in price,—in other words, rent advances. Except in the immediate neighbourhood of great towns, there is very little land let on lease in the United States, the price being so low, that any person who has the capital necessary to enter upon the business of farming, finds the purchase-money of the land a very small addition to his outlay. Hence, the aristocracy of landholders, the most important class in all other countries, has no existence in the United States. There are persons who hold great quantities of land, but it is held on speculation, and there are scarcely any who derive large revenues from leasing it. The farmers are almost universally the owners of the land they occupy, and these are seldom very extensive. The subdivision of estates among families breaks down

large properties, and the high rate of wages renders it difficult to conduct farming with advantage, on such a scale as to relieve the farmers from manual labour. Using only the best soils they have large returns, which is equivalent to high profits, and though few of them acquire great fortunes, many are wealthy, and the great majority are in easy circumstances, the situation most favourable both to virtue and happiness. Some of the southern planters, who are the richest class in the United States, have incomes as high as 80,000 dollars, many have from 12,000 to 20,000, but the incomes of the majority, probably, do not exceed from 3000 to 6000 dollars. The next class to the planters, in point of wealth, are the great merchants in the commercial cities, some of whom possess fortunes of a million of dollars. These, however, are not numerous. In a general point of view, the planters are the prevailing class in the southern states; the agricultural people in the western states; and the commercial in the eastern. In the middle states, the agricultural and commercial classes are more equally balanced. The classes of mechanics and manufacturers are most numerous in the middle and eastern states.

The high rate of profit afforded by the business of farming, necessarily extends itself to all other occupations; and hence, although the people of the United States live better than those of any other country, the clear returns are much greater, and the accumulation of capital more rapid than has ever been exhibited in the history of any nation. The valuations of 1799 and 1814 furnish curious information on this head.

From these it appears, that, in the fifteen years included between these periods, the value of lands and houses, (excluding slaves,) in the seventeen states, had, on an average, increased 160 *per cent.* or from 100 to 260. In South Carolina the increase was more than quadruple, being from 100 to 420; in Tennessee it was from 100 to 400; in Pennsylvania from 100 to 340; in New York from 100 to 269. The increase was least in the New England states, and, in general, was fully as great in the slave states as in the other states where the density of population was similar. The rate of increase for the whole is about $6\frac{1}{2}$ *per cent. per annum*, and the period of doubling eleven years. It will be seen, therefore, that capital accumulates with rather more than twice the velocity of population. The latter quadruples in forty-six years, but in the same period property augments sixteen fold. It is believed that no other country presents any thing like a near approximation to this rate of increase. But the distribution of this capital presents a distinction in favour of the United States no less gratifying. It is not collected into great masses, in the shape of overgrown fortunes, in the hands of a few individuals, but is scattered, in small portions, over the whole country, everywhere fructifying, and expanding into new improvements and enterprises, both private and public. Extensive concerns, and great establishments, which in other countries are supported by single individuals, are here carried on by joint stock companies. Not only is this the case with banks and canals, but with mills, steam-boats, woollen, cotton, and iron manufactories, and many other under-

takings. The shares in the stocks of these companies are generally small, and they afford a ready means for mechanics, labourers, and persons of all classes, investing their savings with advantage.

The United States are at present the second commercial nation in the world. The exports for 1815 and 1816 averaged eighty-five millions of dollars. Those of France, about the year 1787, have been estimated at five hundred and forty millions of livres, or one hundred millions of dollars, but were so much reduced by the Revolution, that, in 1800, they amounted only to two hundred and seventy-one millions of livres, or fifty millions of dollars. The official value of the exports of Britain for 1815 and 1816 averaged fifty-six millions Sterling. Those of Russia, in 1805, were stated at seventy-two millions of roubles, but, from the fluctuation in the value of the currency, the real amount is very uncertain. The tonnage of the United States, for 1816, was 1,370,000 tons, which exceeds that of Great Britain in 1800, and is probably more than double that of all the nations of the north of Europe at the present day. The progress of the American commerce cannot be accurately traced before the Revolution. But it appears from Lord Sheffield's statements, that the average value of exports from the colonies to England, from 1700 to 1710, was L. 265,000 Sterling; from 1730 to 1740, L. 670,000; and from 1760 to 1770, L. 1,044,000. From these data it may be concluded, that the trade of the colonies had nearly quadrupled in the first seventy years of the last century, or had doubled in thirty-five years.

We find, also, that the total exports in 1769, to all countries, were about thirteen millions of dollars, and in 1817 they were eighty-seven millions. It follows, that, within this latter period, the commerce of the United States has doubled every eighteen years. The high amount of exports in 1806 and 1807 being occasioned by temporary circumstances, is disregarded in this calculation.

The rate of wages, and the facility of procuring land, must long operate as a discouragement to manufactures in the United States. Those which have succeeded best are chiefly of articles of a bulky kind, or those in which the labour forms a small part of the value. Cabinet ware and iron work of a large kind are executed at least as well as in England. Spinning, weaving, and the fabrication of various articles, both for home consumption and exportation, were always carried on, in the families of farmers and mechanics, chiefly by the women; maple sugar is almost entirely made in that way. These domestic manufactures are so much more favourable to morals and private happiness than those carried on in large establishments, that it is to be regretted the one cannot be universally substituted for the other. But the progress of society necessarily operates a change in the opposite direction. When the war in 1812 cut off the supply of foreign commodities, the rapidity with which every species of manufacture sprung up in the country, is one of the most surprising facts in American history. It not only proves the great extent of our resources, but shows a degree of enterprise, inventiveness, and versa-

tility of talent, in our citizens, which is altogether unparalleled. For in what country of Europe could men have been found who could so readily assume new habits, and succeed so well in intricate and difficult processes, with which they were formerly unacquainted? So rapid was the progress of manufactures during the late war, that the cotton consumed in them, which, in 1810, was only 10,000 bales, amounted, in 1815, to 90,000. The manufactures that year certainly employed a capital exceeding one hundred millions of dollars: and though they have been depressed by the influx of foreign fabrics since the peace, the number which still maintain themselves, in spite of foreign competition, is a proof of the skill with which they were conducted.

The composition of the judiciary has a direct connection with the maintenance of liberty, and the security of private rights; and in the United States, where a jealousy of power is a constantly operating principle, we find, as might be expected, the provisions against the abuse of judicial power more numerous and strict than in Europe. The judiciary system is by no means uniform in all the states. In Pennsylvania, Delaware, New York, Massachusetts, Maryland, Kentucky, Indiana, and Louisiana, the judges are appointed either by the executive solely, by the council of appointment, by the governor and council, or by the governor and senate; in the other states by the legislature. In Connecticut, Rhode Island, and Vermont, the judges are chosen annually; in New Jersey, the superior

judges for seven, the inferior for five years ; in Georgia, for three ; in Ohio, for seven years ; and in all the other states during good behaviour. The federal judges also hold their offices without limitation as to time. In all the states judges are removeable by impeachment. In Massachusetts, New Hampshire, Delaware, Maryland, Pennsylvania, Kentucky, Louisiana, Mississippi, they are also removeable for misconduct not requiring impeachment, on the address of a majority, or of two-thirds of the legislature.

The population of no country in the world ever enjoyed the necessities and comforts of life in such abundance as that of the United States. The average price of labour was estimated by Mr Blodget, in 1807, at 75 cents per day. In 1815 we find it estimated by Mr Niles, who has paid much attention to the subject, at 80 cents per day ; wheat at 1 dollar, 50 cents, per bushel ; beef, mutton, and veal, at 6 cents per pound ; and, at these prices, it has been computed that a labourer can earn as much in one day as will furnish bread and meat to himself, his wife, and four children, for three days nearly. The average wages of labour in England, in 1811, were stated, by Mr Young, at 2s. 3d. and in 1817 probably did not exceed 1s. 10d. It is observed by travellers, and the observation consists with facts known regarding the lower animals, that this abundance of substantial and nourishing diet has had a visible effect on the human frame. In the mountainous districts, and the western country generally, where the climate is good, and rural occupations prevail, the great strength and athletic size of the men

have struck foreigners with surprise. Where the means of subsistence are so easily procured, no person able to work need be in want. But there must be some in all countries, who, from age, bodily or mental infirmities, are unable to support themselves. In the middle states, on the Atlantic coast, the paupers have been estimated at 1 to 230 inhabitants; in the interior at 1 to 350; and of these a large proportion are foreigners and worn out negroes. In England, in 1817, about one-fifth of the whole population received assistance from the parish. The average expence of maintaining paupers in America is estimated at forty-five dollars *per annum* for each individual. A beggar is scarcely to be seen in any part of the country. But, to have a just idea of the advantages which industry enjoys in the United States, we must take into account, that while labour yields larger returns than in any other country, a much smaller proportion of the produce is taken away in the shape of taxes. The average revenue, from all sources, for ten years preceding the late war, was about 12,500,000 dollars, and this divided among 7,200,000 persons, (including blacks, for whom their masters pay,) gives $1\frac{7}{4}$ dollar for each person. Even during the war, the sums raised by taxation did not exceed this amount; but large debts were contracted. Passing over the years 1815 and 1816, in which the produce of the customs was unusually great, the permanent revenue during peace, till the debt is paid off, from all sources, exclusive of the sale of public lands, it is supposed, will be double of the last-mentioned sum, or twenty-five millions of

dollars; and this divided among ten millions of persons, is $2\frac{1}{2}$ dollars for each. But it must be recollected that this is raised indirectly, by the duties of customs, and that no direct taxes are paid except state taxes. For these latter, including road and poor money, and all other local taxes, the addition does not exceed thirty or forty cents, making, in the whole, about three dollars. The tithes alone, in England, probably amount to as much for each individual; and the poor's rates in 1817 were at least a half greater.

There is no national church in the United States, but the support of religion is left to the voluntary contributions of individuals. This is a singular contrast to the policy of the European states; and yet religion is by no means neglected among us. It is true, the rural population is in general ill supplied with places of worship; but it ought to be recollected, that this population is thinly scattered over a new country, and that Europe owes her amply endowed churches not to the religious zeal of an enlightened age, but to the superstition and bigotry of an age of ignorance. It will be found, however, that in the great cities of Europe, where the population has outgrown the original church-funds, the places of worship do not bear a greater proportion to the population than in those of the United States. In 1817, Boston, with a population of 40,000, had 23 places of worship; New York, with a population of 140,000, had 53; Philadelphia, with 120,000 inhabitants, had 48; and Cincinnati in Ohio, a town with 8000 inhabitants, though scarcely of seven years standing, had 5 places of worship, and 2 more building. It is only between the large towns of America and

Europe that a comparison can be fairly instituted. And if the supply of churches is considered as a criterion of religious zeal, we should take into account, that new churches in Europe are built by compulsory assessments, whereas, in America, they are built by voluntary contributions. Even in country districts, ill provided with churches, no impartial observer will say that the moral duties are less attended to than in Europe. The truth is, church establishments were founded in a dark and barbarous age, when the interests of religion were little understood, and they have since been supported as instruments of state policy. It has no doubt an imposing appearance, to set apart a large proportion of the fruits of the earth to furnish all classes with religious instruction. Something of this kind may have been necessary in the rude times, when Christianity was first established in western Europe. But religion is one of the natural wants of the human mind, and, in an enlightened age, requires no aid from the civil magistrate. His presumptuous attempts to promote its interests, have been the means of corrupting and debasing it; they have lessened its influence over the hearts and conduct of men,—undermined its authority,—and filled the world with contention and bloodshed in its name. Church establishments, connected as they commonly are with exclusive creeds, have been the most effectual engines ever contrived to fetter the human mind. They shut up religion from the influence of new lights and increasing knowledge, give an unnatural stability to error, impose the dogmas and the prejudices of rude and ignorant

times upon ages of knowledge and refinement, and check the genuine influence of religion by associating it with absurd practices and impious impostures. By connecting the church with the state, they degrade religion into an instrument of civil tyranny : by pampering the pride of a particular sect, and putting the sword into its hands, they render it indolent, intolerant, cruel, and spread jealousy and irritation through all the others. By violating the right of private judgment in their endeavours to enforce uniformity of belief, they multiply hypocrites. To what can we attribute the monstrous tyranny of modern Rome, from which it cost so much to emancipate the human mind ? Not to any thing peculiar in its tenets, but to the corrupting influence of power associated with religious functions. The Church of Rome was an established church of the most complete kind, and had in the highest degree all the vices that naturally belong to such a body. But experience will not warrant us in saying, that any other great sect, placed in the same circumstances, would have acted with more moderation. It is true that the toleration which the progress of philosophy has wrung from the priesthood, has stript many of the national churches of their most offensive features ; but much of the ancient spirit yet remains. It is still the case that men are compelled to pay for the support of a form of religion they do not approve of ; that a difference of belief excludes individuals from many civil offices and civil privileges ; that the established clergy are every where ready to justify the worst actions of men in power ; and if they can-

not impose silence upon the dissenters, they are often ready enough to harass and mortify them by such means as they still possess. In nothing have the United States more reason to congratulate themselves than in their total exemption from the numerous dissensions, jealousies, and oppressions that spring from an exclusive religious system. On this, as on other points, their experience affords a useful lesson to the world, and confirms the reasonings of Dr Smith, who pointed out the pernicious effects of such establishments more than forty years ago.

In settling the form of her political and civil institutions, North America had great advantages. She had the knowledge and experience of Europe to guide her, without being fettered by the prejudices and sinister interests that check improvements in that quarter of the world. In all old communities, men are governed by ancient forms and usages, as much as by just views of their interests, or the exigencies of their situation. But when they are removed to a new scene, old habits and prejudices are cast off; and their opinions and conduct are moulded by their circumstances. Attempts were made in several of the colonies to establish feudal practices and high church privileges, but they were inconsistent with the habits and situation of the colonists, and fell to the ground. The constitution and history of the parent state taught them the principles of freedom; her laws afforded them models of what is wise and humane in legislation, while her errors and sufferings, and still more those of other nations, were beacons to warn them against the

evils of corruption, injustice, and tyranny. Guided by these lights, and by their own experience, the colonists gradually framed their institutions on the basis of equal rights. The establishment of their independence delivered them entirely from foreign influence, and left them at liberty to consult their own wishes and interests in the form of their government. The constitution that resulted, may be said to be the deliberate act of the whole nation ; and if it is not perfect, it at least answers all the ends for which government is framed in a much higher degree than any other which the history of mankind presents.

This government rests on what must be the basis of every system of freedom, a full, fair, and equal representation. All interests are secured, because all are represented. The elective franchise is nearly universal, and there is no excluded class, whose irritated feelings threaten destruction to a system that subjects them to degradation. * The government is strong

* It will be seen, by referring to the constitutions of the different states, that, in some of the older states, infidels are excluded from certain offices. in others, Jews and Roman Catholics. The ancient laws of Virginia extend the exclusion to all persons not believing in the Trinity. These laws, however, are not rigorously enforced, and it is likely they will soon disappear altogether. There are also restrictions, in some of the older states, on the elective franchise. In New Hampshire, Pennsylvania, Delaware, North Carolina, South Carolina, and Georgia, the right of electing representatives for the state legislature or general congress, is confined to citizens paying taxes ; in Connecticut and Virginia, to freeholders ; in Massachusetts, New York, and New Jersey, to persons possessing a certain amount of property ; in all the other

without a military force, because the majority who govern are interested in its preservation. There can be no collision between the people and their rulers, because the former have an organ that faithfully expresses their will, and to this will the government, from its nature, must yield obedience. The Lower House of Congress, elected every two years, may be said, in the words of Burke, to be the express image of the feelings of the people. The Senate, elected every six years, must be less affected by the fluctuating humours of the people, and may be considered as representing more correctly their deliberate judgment and permanent interests. The control which the Senate exercises over the acts of the House of Representatives, is not that of an independent body over the will of the nation ; but it may rather be compared to the control which the reason and experience of the nation exercise over the sudden impulses of its feelings and sentiments.

It is only in the United States that a genuine representation exists. What we see in the most enlightened states of Europe is but a feeble approximation. The legislative bodies there, though respectable in point of talent, are, properly speaking, but a kind of drags or incumbrances, hung on the machine of monarchy to equalize its motions. They rest on the

states the elective franchise belongs to the whole free citizens without distinction. The effect of these restrictions upon the whole representation is but inconsiderable. For a very able exposition of the principles of the American government, see the Appendix to Hall's Travels.

basis of the privileged classes, whose interests they, of course, strengthen, but their connection with the mass of the nation is very small; and they are much more efficient in raising taxes, and in supporting and enforcing the designs of the executive, than in checking its misconduct, or protecting public freedom. When a people in any country give themselves a representative system, they will take the United States for their model, but when a new constitution emanates from the prince, the representation will be framed on as narrow a basis as possible: it will be virtually an aristocracy.

Almost every other advantage is comprised in a government being free, and the freedom of that of the United States appears fortunately to rest on the firmest foundation. So long as the present equality of condition subsists, the government must be essentially republican. If it be impossible, as some allege, to establish democracy in Europe, it is equally impossible to establish aristocracy in America. A democratic or unprivileged class exists in all countries, but no class exists at present in the United States, or can exist for a long time to come, that could sustain the part of an aristocracy. And before such a class arises, the principles of freedom will have such a firm hold in the habits and associations of the people, that all attempts to strip them of the rights they now enjoy must prove unavailing. As for monarchy, it cannot exist without a privileged class, unless in the shape of a military despotism. Against this evil the United States are secured by their situation, which exempts them from the

necessity of keeping up a great military force. North America has not, and if she remain united, never can have a formidable rival in her own division of the continent. In a few years she will outgrow all her rivals in Europe, so far, that her fleets alone will protect her from their attacks ; for, with the extensive coast she possesses, and a population of fifty or a hundred millions, the empire of the sea must unavoidably fall into her hands. Besides, the noble moderation of Washington will render it difficult for any commander, at a future period, to become a traitor to the liberties of his country. In addition to all these securities for her freedom, she has the liberty of the press, and the growing intelligence of her population. In both of these respects she enjoys such a distinguished pre-eminence over all other nations, as to render conclusions drawn from their experience inapplicable to her. The circulation of the journals is much more extensive than in any other country, and the class who take an interest in political matters includes the whole people. Every act of the government may be said to be performed under the eye of an intelligent population, which is continually exercising its judgment on public affairs, and never fails to reprehend, in the proper way, any abuse of trust on the part of the public servants. Any person who should attempt to play the usurper in the United States, could not succeed by gaining over a few great men as in other countries, but must impose upon the judgment of a whole nation, trained to decide on the conduct of public men ; and this is a difficulty which no usurper has encountered yet.

It is to the ignorance and apathy of the people that political impostors owe their success.

An argument of rather more weight against the permanence of the government, is drawn from the tendency of so great a country to separate into different empires, from the strength of factions, or the opposite interests of different sections of the country. Admitting the reality of this danger, there are considerations that lessen its amount. The states that have been added to the Union since the revolution, and those that may be added in future, are peopled slowly and gradually by drafts from the older and densely peopled parts. The effect of this is to spread a similarity of manners, language, and character over the different states; the ties of relationship and of a common origin are multiplied; and the connecting links thus formed in the infancy of each new state, acquire the force of habit before it has grown up to maturity. An empire, formed in this way, contains none of the elements of disunion which existed in the Roman Empire, and is even much more homogeneous in its character than the kingdoms of modern Europe. Again, the interests of single states, in different quarters of the Union, though opposite, in some points, may not be practically incompatible, and they have all so strong a common interest in remaining united, that it is difficult to imagine how any benefit can be gained by a separation which shall overbalance the advantages, both commercial and political, secured by the Union. With regard to the danger from the violence of factions, it is to be considered, that, though the

leaders of a faction are led by their passions, the majority of the people, in any district, will generally be guided by their interests, and as men become more intelligent, the pretexts by which the ambitious practise upon their followers must be continually losing their hold, and the dangerous influence of faction be more and more reduced. Faction naturally endeavours to make its stronghold in the state legislatures, but the weight of each state in the confederacy diminishes as the number of the whole increases, and the influence of the general government will augment in the same proportion. But the grand remedy for all the evils to which the United States may be exposed, lies in the spirit and intelligence of the population. What is the effect of the diffusion of knowledge but to give men juster and clearer views of their true interests? and it is contrary to experience to suppose, that the better men understand their interests, the more they are disposed to disregard them. Can a great empire be held together by no other means than the compressing force of despotic power, and must men first be degraded and oppressed before they can be made to understand the advantages of peace, union, and free intercourse? The stability, prosperity, and greatness of a free nation, is the most secure of all, because it rests not upon the wisdom or the virtue of one man, or one class of men, who may have separate interests incompatible with the public good, but upon a sense of common interest in the whole society, which never can cease to operate, and which, in an enlightened age, sophistry will find it hard to mislead.

It has been said that the Americans have no national character. Without stopping to inquire in what this consists, we may observe, that, according to the testimony of travellers, the aspect of society in the United States is distinguished by many striking peculiarities from that of Europe. Though the number of learned and scientific characters is much smaller than in France and Britain, the mass of the population are better informed than in either of these countries. They are not merely better educated, but they derive from their habits more practical sagacity and good sense. Indeed, the political and physical situation of the United States explain whatever is peculiar in the character of the people. Their migratory habits enlarge the circle of their ideas, and destroy those local prejudices and attachments which belong to the European nations, where successive generations continue to vegetate on the same spot, and tread in the same circle. Reading the journals universally, and knowing a little of what is doing both in their own country and the world generally, they betray none of the clownish awkwardness which springs from conscious ignorance. Placed often in situations where they have to work their way and supply their wants with little assistance from others, they are inventive, persevering, full of resources, not easily deterred by difficulties. The prejudices of birth and rank, which fetter industry in Europe, have little existence in America; men change their profession as often as it suits their interest, and never deem any honest occupation disreputable. Enjoying abundance, and depending on no

man's patronage, they are free, open-hearted, unreserved, and, perhaps, somewhat rough in their manners. Accustomed to rely much on their own arm, they are manly, brave, high-spirited, and enterprising. Of these qualities they exhibited many brilliant proofs during the late war. The shameful defeats sustained by land at first, which would have subdued the spirits of men of less energy, only provoked them to greater efforts ; and, at the close of the war, the American arms were everywhere victorious, both by land and sea. The triumphs of the navy, gained by men without experience over an enemy renowned for skill and courage, and inured to war by twenty years of victory, have few parallels in history. The issue of the contest has raised the American character in the eyes of the world, and nobly sustained the ancient reputation of republican valour. There is nowhere so much public spirit in the body of the people as in the United States. Daily exercised in judging of public measures, and taught to consider themselves as members of the commonwealth, they feel a personal interest in the fortunes of their country. They are proud of her glory, and jealous of her honour, in a degree sometimes offensive to foreigners. Though parties are loud and violent in their contests, these are but the wholesome exercises of free and generous spirits in the field of honourable ambition. The people at large are proud of the government, because it is a monument of their superiority to other nations. They are attached to it, because by its composition, its conduct and views are always in harmony with their opinions and inte-

rests. They feel its influence more by the protection it gives than by the burdens it imposes. All its offices are open to their ambition ; and neither birth, profession, nor any form of religious belief, is a bar to their hopes.

Doubtless the government of the United States is not exempt from the errors and imperfections that adhere to all human institutions. But compare its public conduct with that of the old governments of Europe. How calm and reasonable is its language ; always addressing itself to the understanding and the solid interests of the people, never to their passions or prejudices. It seeks no aid from superstition, supports no gainful impostures, and uses none of that disgusting cant with which the old governments of Europe varnish over the degradation of the people. It is a stranger to state craft and mystery. All its acts are done in the face of day. It promotes knowledge, religion, and learning, without the preference of particular sects, and without debasing them by falsehoods beneficial to the ruling powers. It is the only government in the world that dares to put arms freely into the hands of all its citizens. From Maine to Mississippi, it commands a prompt and ready obedience, without any other weapon than a constable's staff. In a word, it secures property, satisfies opinion, promotes the developement of industry and talent with a rapidity hitherto unexampled ; and, with the smallest sacrifice of individual rights and property on the part of the people, it accomplishes all that the most expensive and powerful governments pretend to.

ACCOUNT
OF THE
UNITED STATES
OF
NORTH AMERICA.

PART FIRST.

CHAPTER I.

OF THE BOUNDARIES OF THE UNITED STATES.

THE boundaries of the United States were determined by the treaty of peace of 1783, which confirmed the independence of the Republic.

Northern Boundary.—According to the second article of this treaty, the northern boundary extends from the source of the St Croix river, which falls into the bay of Fundy, northward to the elevated ridge of mountains which separate the waters that run into the river St Lawrence, from those that empty themselves into the Atlantic Ocean, along this same ridge to the most north-western source of Connecticut river, and thence along its current to the forty-fifth degree of north latitude : From

this point the line runs due west on this parallel to the river Iroquois, or Cataraquis, along the channel of this river to the Lake Ontario, through the middle of this lake and that of Erie, Huron, and Superior, following the line of water communication between each, and through this last lake, in a northern direction, to the isles Royales, or Philippeaux, to and across Long Lake, and the Lake of the Woods, as far as the most north-western point of the latter, thence by a due west line to the river Mississippi. From this point the *Western Boundary* extends along the middle of this river to the thirty-first degree of north latitude.

Southern Boundary.—From the place where the thirty-first parallel intersects the Mississippi, by a line running due east to the river Apalachicola, or Catahouche, following the stream of this river to its junction with Flint River; thence in a direct line to St Mary's. and along the middle of this river to the Atlantic Ocean. The *Eastern Limit* passes along the shores of the Atlantic Ocean northward, till it reaches the mouth of the river St Croix, in the bay of Fundy, and thence to its source; including all islands within twenty leagues of the American coast, except those within the limits of the British province of Nova Scotia. Louisiana, which was afterwards ceded to the United States, and more than doubled their original extent, was so imperfectly known at the date

of this treaty, that its western boundaries were considered as indefinite. On the north, according to the treaty of Utrecht, it was considered as joining Canada in the forty-ninth parallel of latitude.

These boundaries appeared to be marked with sufficient precision, but doubts afterwards arose on various points. The river St Croix, which runs into Passamaquoddy Bay, was designated as the eastern limit; but this river having three distinct branches, it became a subject of discussion which of these led to its true source; and the matter being submitted to the decision of commissioners, appointed by the two contending powers, was settled, by treaty, in 1794. The north-western limits of the district of Maine, which approach near to the river St Lawrence, remained undetermined, and being considered as very important, in a military point of view, they were brought under consideration during the late negotiations at Ghent, when it was agreed to leave the subject to the decision of commissioners appointed by the respective parties. The commissioners are also to determine to whom the several islands of right belong, which are situated near the mouth of the St Croix River in the St Lawrence, and the Western Lakes,* and which

* In these lakes, through the middle of which the line of demarkation runs, there are no less than fifty-seven islands: namely, twelve in Lake Erie, nine in Lake Huron, twenty-four in Ontario, five in St Clair, and seven in Lake Superior.

are claimed both by England and the United States. By the same treaty of 1783, part of the northern boundary is marked by a line running due west from the most north-western point of the Lake of the Woods to the river Mississippi. But it has since been ascertained by the geographical observations of Mr Mackenzie and Mr Thomson,* that this river does not extend so far north, by two degrees; the north-western extremity of the lake being in latitude $49^{\circ} 37'$, and longitude $94^{\circ} 31'$ west from London, and the source of the most northern branch of the Mississippi in latitude $47^{\circ} 30'$ north, and $95^{\circ} 6'$ of west longitude. This western line will not even touch the Missouri; for the great northern bend of this river is in $47^{\circ} 32'$ of north latitude, and $101^{\circ} 25'$ west longitude from London. If the line of limits, therefore, as observed by Major Pike, were to run from the head of the Lake of the Woods to the source of the Mississippi, taking a direction nearly south, it would give to Britain the upper part of Red River, and nearly two-thirds of the territory of Louisiana; but if carried due west, it will cross Red River nearly at its embouchure, and probably strike the Western Ocean at Birch Bay in Queen Charlotte Sound. Though a long period must elapse before this remote territory be permanently occupied

* Astronomer to the English North-West Company.

by a civilized population, it is already of some value for the fur trade ; and it appears from Major Pike's statements, that the British North-West Company have trading establishments on the south side of Lake Superior, and at other places within the American limits, by which the United States have been defrauded of duties to the amount of 26,000 dollars. It will be seen, therefore, that the proper settling of these limits, desolate as the country is, involves interests of considerable importance. The survey agreed upon by the treaty of 1794 *was never executed*. The subject was, however, reconsidered in the negotiations at Ghent, and by the treaty signed there on 24th December 1814, the contracting parties agreed, that the boundary line of the United States should extend twenty leagues from the shore ; that the claim of each to the islands situated in the bay of Passamaquoddy be referred to the decision of two commissioners ; the St Croix river to be surveyed to its source ; the point of Highlands at the north-west angle of Nova Scotia, and the north-west head of Connecticut river, to be determined ; the islands in the lakes to be surveyed, and also the line of boundary to the most north-western point of the Lake of the Woods, from the forty-fifth degree of latitude.

A line passing along the thirty-first parallel of latitude, was fixed as the boundary between the

United States and Florida. As the latter country, however, when held by Britain, extended as far north as the river Yazoo, Spain, at first, refused to give the United States possession of the intervening track ; but she afterwards abandoned her claim to it, and, in the treaty of 1795, recognised the boundaries fixed at the peace of 1783.

By the treaty of the 30th April 1803, Louisiana was ceded by France to the United States,* with the same extent as when in possession of Spain or France, and such as it should be according to treaties subsequently entered into between Spain and other states ; in consequence of which it was taken possession of, and united with the American Republic, on the 20th of December next, after the date of the above treaty.

The terms of this treaty left the extent and boundaries of Louisiana to be ascertained from a variety of anterior circumstances and agreements. A great part of the country was, indeed, at the time, unexplored and unknown ; but the information since obtained, and the changes that have been gradually taking place, have raised the importance of the question regarding its limits, which

* For the sum of 15,000,000 of dollars, of which 3,750,000 were applied for the payment of claims due by France to merchants of the United States. The difference of 11,250,000 dollars was paid by a loan at six *per cent*.

have latterly been made the subject of much inquiry and negociation between the parties interested. Louisiana, as ceded to the United States, taken even in its most limited extent, includes a surface equal to the whole of Europe, exclusive of Russia ; and this not of poor or useless land, but, for the greater part, of a soil remarkably rich, situated in the most favoured climate in the world, intersected everywhere with navigable streams, and possessing, in an unequalled degree, all the other advantages requisite to facilitate its settlement. Besides, the rapid increase in the population of the United States, and the results which the laws that regulate this increase enable us to anticipate, shew, that the occupation of the region west of the Mississippi by a civilized population, is not a very distant event. A great part of it is yet but a wilderness, inhabited by a few savages ; but the shifting of a boundary a little the one way or the other, in so great a field, will take or give a space equal to one or two European kingdoms in extent, and which, at no distant period, may be the seat of industry and wealth. Both Spain and the United States have felt the weight of these considerations, and the question as to boundaries has been discussed with a degree of interest which the present situation of the territory would scarcely seem to justify. For the sake of those who may wish to understand the controversy, we shall here state

briefly the grounds upon which the claims of the United States rest, so far as they have been determined by treaties and agreements ; subjoining, in a note, those which are derived from historical facts and other circumstances. *

* As the United States by this treaty entered into the same rights which the French enjoyed, considerable pains have been taken by officers acting under the Federal Government, to trace out the facts and circumstances connected with the discovery and settlement of the country, especially those parts of it which have been the subject of dispute. The following details embrace the substance of the information collected, so far as it relates to discovery, and priority of occupation, or shews the understanding of the parties themselves at early periods, with regard to the limits of their possession.

It appears that Delasalle and his party, in the years 1680, 1681, 1682, and 1683, explored the country from the Canadian lakes to the Mississippi, and this river, from the falls of St Anthony to its outlet in the Gulf of Mexico ; made treaties with the Indian tribes which then occupied it, and established the forts *Crevecœur* and *Prud'homme*, on the Illinois river, and that of *St Louis* on the Mississippi. Proceeding by sea, Delasalle disembarked in the Bay of St Bernard in 1685, about 150 leagues to the west of the mouth of the Mississippi, near that of the small river *Aux Canes*, and advancing towards the former, across the country of the Cenis, and other Indian tribes, he fell a victim to the perfidy of his own men.

In 1699, Iberville transported troops and inhabitants to Louisiana by the mouth of the Mississippi river, erected a

France having lost her possessions in Canada by the war of 1756, ceded to Great Britain the terri-

fort and formed an establishment in the Bay of Biloxi, near the Pascagoulas river, and afterwards entered Mobile Bay ; where, in 1701, a fort was erected, and a new establishment formed. The year following, Fort Dauphine, to the south of the bay, was established and fortified, and afterwards Fort Louis, or Mobile, at the distance of sixteen leagues from Dauphine Isle : in 1702, Fort Tombeché, fifty leagues north of the former, and Fort Toulouse, sixty leagues higher on the north-eastern branch.*

Major Stoddart, in his *Sketches of Louisiana*, p. 136, states, that “ Ibberville, the first royal governor of Louisiana, planted a colony at the mouth of the river Perdido, “ in 1699, where he built a fort and mounted twelve pieces “ of cannon.”

The same year, Bienville, brother to Ibberville, ascended on the western side of the Mobile towards its sources, through the villages of the Chattas or Flatheads, and to those of the Chickasaws. He also ascended Red River to Natchitoches, without finding any Spanish settlements ; but this nation, jealous of those of the French, afterwards formed a settlement in the country of the Assinais, and erected a fort near the place where stood that of Delasalle, but did not claim the country eastward of the Rio Bravo, except for commercial purposes. We find in 1712, that in the letters patent to Crozat, all the rivers were included which run into the Mississippi, and all the lands, coasts, and islands situated in the Gulf of Mexico, between Carolina on the east, and Old and New Mexico on the west. These countries

* See Vergennes' *Mémoire sur la Louisiane*, p. 67. Durant and Duprazt.

tory south of the thirty-first degree of north latitude, and extending to the river Perdido, on the

did not extend east of the Rio Bravo, from which the newest Spanish settlement was 150 miles remote, at the date of this grant.* The first Spanish fort on the western side of the river St John Baptist was erected in 1714, when the province of Texas was created, but not inhabited.

In 1719, Bernard La Harpe, with a body of troops, penetrated up Red River, 400 miles beyond Natchitoches, to the Cadoques villages, in latitude $35^{\circ} 55'$, and constructed the Fort St Louis de Carlouette. The same year a garrison was established by an officer named Berenger, in the Bay of St Bernard, in latitude $27^{\circ} 45'$, 390 miles to the west of the Mississippi, which was afterwards destroyed by the Indians.†

In consequence of the establishments at Natchitoches, the Spaniards erected a military post, seven leagues to the south-west of this place at the Adayes, which was afterwards transferred to Nazodoches; but before the establishment of La Salle, in the Bay of St Bernard, in 1685, no part of the territory east of the Rio Norte was occupied by the Spaniards, for their nearest settlement to the mouth of the Mississippi river was St Augustine.

In 1720, the Missouri post was established on the river of the same name.‡ In 1717, the French erected Fort Creve-cœur on a branch of the Apalachicola river, which empties itself into the Bay of St Joseph, but abandoned it in the following year, on the representations made by the governor

* Charlevoix, *Histoire Générale de la Nouvelle France*, in 4to. Paris, 2 vols. p. 418.

† Stoddart, p. 143.

‡ Dumont, *Memoires Historiques*.

east side of the Mississippi; and Spain, who had been her unfortunate ally, exchanged all her pos-

of Pensacola, that this bay belonged to his Catholic Majesty. *

Dupratz, the historian of Louisiana, defines its boundaries as follows: "Louisiana, situated in the northern part of America, is bounded on the south by the Gulf of Mexico; on the east, by Carolina, an English colony, and a part of Canada; on the west, by New Mexico; on the north, by a part of Canada; the rest has no bounds, and extends to the unknown lands adjoining to Hudson's Bay. Its breadth, extending between the English and Spanish establishments, is about 200 leagues. Its length is undetermined, because it is unknown. Nevertheless, the source of the Mississippi will throw some light on this head." † The Map of Dupratz, which accompanies his work, includes all that part of Louisiana now known by the name of West Florida, and the whole country to the *Rio Bravo* or *Del Norte*.

De la Harpe describes Louisiana as extending from the bay which he entered in 1721, in latitude $29^{\circ} 12'$ longitude, 282° east from Ferro, or 95° from Greenwich, to the river Perdido, including about 160 marine leagues of coast. ‡

According to D'Anville, a good authority in all geographical matters, the western limits of Florida extend no farther than the Rio Perdido, and a line running north to the Apalachian mountains. His map was published in 1746, at a moment when this country was considered as of little

* Roberts' Geographical Account of Florida, p. 12.

† Vol. I. Chap. 10.

‡ Darby, Louisiana, Appendix, p. 14.

sessions in Florida, including St Augustine and Pensacola, for the port of Havannah, which had

interest to France; and this most scrupulous geographer described the western line as commencing on the coast of the Gulf of Mexico, at the Cabo del Norte, (on modern maps called *Pointe de la Chenière au Tigre*,) passing between the Presidio des Adayes and Fort Natchitoches, and separating the Rio Mexicano, or Mermentas, from the Red River of Natchitoches and its branches, which are within Louisiana.

In "the Account of the first Discovery and Natural History of Florida," by William Roberts, illustrated by a general map, and geographical description of that country, by Jeffreys. geographer to his Majesty, this river is also described as the most western boundary on the coast of Florida towards Louisiana.* The publisher has also inserted a letter written by Captain Robinson, who visited that coast in 1754, and who resided for some time at Villa Rica, in which he states, "that Pensacola is most excellently situated as a barrier to cover the Spanish territories in that quarter, which extended no farther than to the river Perdido."† In the description of Louisiana, contained in the history of the British Empire in North America, it is observed, "that the coast which was first inhabited extends from the river Perdido to the Lake St Louis."‡ According to the map and historical journal of Yentel, one of the party of La Salle, the first disembarkation was made at the mouth of a small river situated in 28° 17' north latitude, and 277° of longitude, and the first habitation established on an arm of

* London, in 4to, 1763, p. 1 and 8.

† London, in 4to, 1763, p. 95.

‡ Page 178 of the London edition, 1773.

been taken by the English. This treaty, of which the preliminaries were signed at Fontainebleau on

this river, which runs into the Bay of St Louis, near which it forms an islet. On the map, the confluence of this river is between the entry of the Bay of St Louis, and the river Del Oro. The second habitation was erected on the southwest side of the Bocuf River, above its junction, from which La Salle and his party proceeded, to near the union of its two great branches, where they crossed this river, the Aux Cannes, and all the others to the fork of the Akansas, where they found a house marked R, inhabited by two Frenchmen. There embarking, they descended to the river Mississippi, which they afterwards ascended, to the junction of the Illinois.* Bellin, engineer of the French department of marine, and of the depot of maps, &c. who, in 1744, published a map of Louisiana for the history of New France, by Charleroi, remarks that the coast of Louisiana extends, on the Gulf of Mexico, the space of at least 160 leagues from the Bay of Mobile to that of St Bernard or St Louis.† According to the map of Delille, (member of the Royal Academy of Sciences,) entitled *Carte de la Louisiane, et du Cours du Mississippi avec les Colonies Anglaises*, revised, corrected, and considerably augmented, in 1782; the *Rio del Norte*, or Bravo, is the western, and the Mobile the eastern boundary. In another, published in 1785, for the use of the king, by Dezauche, successor of his first geographer Delille, and Buache, examined and approved by the Royal Academy of Sciences, the Perdido is the eastern boundary; and the

* This Journal, with the map, was published at Paris in 1713, by Robinot.

† Remarques sur la Carte de l'Amerique Septentrionale, &c. p. 111.

the 3d of November 1762, was ratified at London on the 10th of February 1763. By a separate act

western, the Rio Bravo or del Norte, to its eastern branch, the Rio Salado, and along this stream to near the 40^o of latitude; and thence, in a westerly direction, across the upper branch of the Rio del Norte to the Rio Colorado river; on the north to near the 45^o degree of latitude, including the supposed sources of the Missouri river. This map is entitled *Carte d'Amérique*, dressée pour l'usage du Roi, par Guil. Delisle et Phil. Buache, Premier Géographes du Roi, et de l'Academie Royale des Sciences, par Dezauche Géographe, 1785. Le Rouge, geographer to the king, published his American Atlas in 1778, and, in his map of North America, Louisiana has the same boundary on the west and north; on the east, the Perdido river. This map is entitled, *L'Amérique suivant le R. P. Charlevoix, et M. de la Condamine, et plusieurs autres nouvelles observations*, Paris, 1774. The Mobile is the eastern line of demarkation between Florida and Louisiana on the French marine charts contained in the work entitled *Hydrographie Française*, executed by orders of the French Government. In a map published, in 1778, by the instructions of Sartine, the French minister and secretary of state, the river Tensas is the eastern boundary. In a map of Homan of Nuremberg, published in the year 1687, and entitled, "*Amplissima Regionis Mississippi, seu Provinciæ Ludovicianæ, à R. P. Ludovico Hennepin Francisc. Miss. in America Septentrionali, anno 1687 delecto*;" the western limits of Louisiana is the Rio del Norte to its great eastern branch; the Rio Salado de Apaches de los Sieta river, now St Paul's river, and along this stream to the thirty-fourth parallel of

of the former date, France ceded to Spain all Louisiana, west of the river Mississippi, including the city and island of New Orleans. This cession was never published, but is referred to in the letter of the French king to D'Abbadie, director-general and commandant of this colony, dated the 21st of April 1764. The country thus ceded under the name of Florida, extended, by the Spanish accounts, according to the most accurate observations, from about $25^{\circ} 6'$ to $39^{\circ} 38'$ north latitude; and its most eastern coast lies in about

latitude; thence in a north easterly direction across the Rio de San Marco, or Colorado, or Aux Cannes, to the chain of parallel mountains; thence north-west to the great stream of the Rio del Norte in $38\frac{1}{2}^{\circ}$ of latitude. The eastern boundary is the Mobile Bay, and thence along the river Alabama, which enters therein to near its south-eastern bend, and from this part eastward to the river des Chattaux, or Apalachicolas, and to the mountains.* The establishment of Lasalle, in 1685, is marked on the south-west side of the little river Aux Cannes, near its junction with the great river of the same name, on the Bay of St Louis. The Spanish establishment, made in 1689, is a little to the north-west towards the river Guadeloupe or Madeleine, and their route thither is traced from the *Rio Salinas de Madadores* of the Del Norte at the point of junction of the southern branch.

* In comparing this map with a copy which Mr Darby has given in his work on Louisiana, I find that his of 1712 is different in several respects.

81° 30' west longitude from London ; its whole length being nearly a thousand English miles. It is separated from Louisiana on the west by the Rio Perdido.* In the year 1764, when Great Britain took possession of this country, they gave the name of East Florida to all the country situated on the eastern side of the Apalachicola river, and south of the St Mary, to the extremity of the Peninsula, and of West Florida to that extending from the former river to the Mississippi, and south of the thirty-first degree of north latitude. Spain having, at the solicitation of France, taken a friendly part in the American Revolution, seized the opportunity of regaining her possessions, which was effected in the years 1779 and 1780 ; and by the treaty of peace of 1783 between Great Britain and the United States, the former ceded to the latter that part of Louisiana situated on the east side of the Mississippi, and north of the thirty-first parallel of latitude ; and the country below this line, known by the name of West and East Florida, was guaranteed to Spain, who agreed to evacuate all her posts above the thirty-first degree of latitude, which formed her northern, and the river Mississippi, her western boundary. By another treaty between the United States and Spain of 1795, this was formally acknowledged as the

* Roberts' History of Florida. London, 1763, p. 1.

line of boundary. Spain, however, continued to keep possession of the country above the thirty-first parallel, and refused to acknowledge the free navigation of the Mississippi and the right of deposit at New Orleans. In consequence of this, an armed force was preparing on the Ohio to take possession of this place, when Spain, thus menaced, sold the colony to the French Republic on 21st March 1801. The Representative Assembly of this country ordered an army of 25,000 men to be embarked in Holland for the purpose of taking possession of Louisiana ; but the port of embarkation was so well blockaded by an English squadron, that the project was abandoned ; and Louisiana was ceded by treaty to the United States on the 30th of April 1803, with the same extent it then had in the hands of Spain, and when possessed by France, and such as it should be under the treaties subsequently entered into between Spain and the United States. In the same terms this province had been ceded to France by Spain, by the treaty of St Ildephonso, in the year 1800, which was confirmed by that of Madrid in 1801. The general phraseology of this treaty, and especially the term “retrocession,” has given rise to a claim on the part of Spain, to that tract of country situated to the east of the rivers Mississippi and the Ibberville, which had been ceded by France to Great Britain in 1763 ; by the latter to Spain in 1783,

and which she pretends is not included in the country that Spain had received from France. It is evident that the words of this treaty embrace Louisiana in its whole extent on each side of the Mississippi; but it is to be regretted that the real boundaries were not described. The boundary between Louisiana and the province of Florida, when the former belonged to France, and the latter to Spain, was acknowledged to be the river Perdido by the respective authorities; and the United States claiming this line of boundary, took possession of the country in 1812, except the port of Mobile, on Mobile Bay, which surrendered to their forces the following year. The entrance of the harbour of Pensacola is about twelve miles to the eastward of the Perdido, and sixty from Mobile Bay. In 1719, the town was taken by the French, retaken by the Spaniards, who were afterwards driven out by the former, to whom it was confirmed in 1722; and the Perdido, both before and after this period, was always considered as the line of demarkation between these two powers. Louisiana was retroceded to France “with the same extent “that it then had in the hands of Spain;” and the territory in question, by whatever name Spain chose to call it, was then substantially in her hands. Louisiana was retroceded to the United States “with the same extent that it had when France “possessed it;” and not only was the territory be-

tween the Mississippi and the Perdido part of Louisiana when France possessed it, but she never held this country a single day without that territory as part of it. For, as has been stated, she ceded on the same day the eastern part of Louisiana to England, and the western part to Spain. Louisiana was retroceded, "such as it should be after "the treaties subsequently entered into between "Spain and the other states;" and Spain never had, since she acquired Louisiana in 1762, made any treaties relative to this country but that of 1783 with Great Britain, and that of 1795 with the United States. She had entered into no treaty whatever which affected Louisiana west of the Mississippi.* The fine tract of country called *Texas*, lying to the south of the waters of Red River, being also claimed by Spain, who had formed an establishment there posterior to the occupation of Louisiana by the French, it was mutually agreed between her and the United States in 1806, that till this was settled, the Spaniards should not cross the Sabinas, nor the Americans extend their settlements, or claim of jurisdiction,

* See p. 9 of the Introduction to Laws, Treaties, and other documents, having operation and respect to the public lands. Washington, 1811. In the 1st vol. of the American Register, (1817,) the Florida question is stated in a very minute manner by Mr Brackenridge.

to the borders of this river; and to prevent disputes, the officers of the United States had instructions not to survey any of the public lands lying to the west of a meridian passing by Natchitoches.* The ports of Matagorda and Galvestown, situated in this province, were taken possession of in September 1816, in the name of the Mexican Republic, by Joseph Manuel de Herrera. The country traversed by Lewis and Clarke has been claimed to the Pacific Ocean by right of discovery. The Spaniards, however, have a permanent establishment on the south side of the bay of St Francisco, in latitude $37^{\circ} 42'$, and 132° west longitude from London, (about 600 miles from the mouth of the Columbia river,) to which point they claim possession. The boundaries of Louisiana, therefore, as claimed by the American Government, are as follows: *North*, by the 49° of latitude, which, according to the treaty of Utrecht, was the ancient line of limits between the English possessions and Louisiana. *South*, by the Gulf of Mexico. *East*, by the river Perdido. *West*, by the Rio Colorado of Texas, (which was also the boundary according to the treaty of Utrecht;) from the mouth of

* Situated on the right bank of Red river, in latitude $31^{\circ} 56'$, and longitude $98^{\circ} 2'$ west from London, at the distance of 130 miles by land, and 235 by water from the river Mississippi.

this river in the Bay of St Bernard to its source ; thence along the chain of mountains which separates the waters that flow into the Rio del Norte, from those that fall into the Mississippi and Missouri. According to these boundaries, Louisiana is more extensive than the rest of the United States, containing about 1,030,192 square miles.

CHAPTER II.

OF THE GENERAL ASPECT OF THE COUNTRY, ITS
EXTENT, AND THE NATURE OF THE SOIL.

General Aspect of the Country.—The southeastern side of the American continent, from the extremity of Maine to Florida, was naturally divided by the Indian inhabitants into three regions; the Lowlands, or flats, the Highlands, and the Mountains. The first, in their language termed *Ahkynt*, extends from the Atlantic Ocean to the falls of the great rivers that run through them, a breadth of nearly ninety miles. The highlands, called *Ahkontshack*, stretch from those falls to the foot of the great range of mountains. These mountains, called by the northern Indians *Alleghany*, by those towards the south *Apalaches*,* or Pamon-

* In English *endless mountains*. This name, derived from the Indian nation of Apalaches, who formerly inhabited the borders of the river Apalachicola, and first employed to designate the termination of the great ridges only, was afterwards applied by European geographers to the whole chain.

tinck,* and by the Spaniards *Apaloki*, from the nation *Apaloken*, run through the midst of the Continent from north-east to south-west.

Apalachian Mountains.—These form the most remarkable feature of the country, traversing it from the river St Lawrence to Georgia, from the thirty-fourth to the forty-second degree of north latitude, in a direction nearly parallel with the Atlantic coast, the highest ridge separating the waters which descend towards the Atlantic, from those which run in an opposite direction to the western country, and to the rivers of St Lawrence and Mississippi. The whole length of this chain may be estimated at 900 miles. The mean breadth at 110, though it varies from 60 to 200. The highest, or Alleghany ridge, preserves nearly an equal distance of 250 miles from the Atlantic shore, and an almost uniform elevation above it of about 1000 feet. These mountains, however, are separated into two distinct chains, the eastern and western. The first, known by the name of Blue Ridge, or Blue Mountains,† runs in a north-easterly direction, across the states of Virginia, Pennsylvania,

* In Indian language this word signifies “origin of the Indians.” See Introduction to Stork’s Description of Florida London, 1769.

† In Pennsylvania this ridge is also known by the name of South, and *Kittating Mountains*.

the western parts of North Carolina, the northern parts of New Jersey, and southern angle of New York, to the Hudson river at West Point, where, under the name of *Green Mountains*, it takes a northerly direction, through the states of Connecticut, Massachusetts, and Vermont, towards the bay of Chaleur in Canada, dividing the waters of the Connecticut river from those of the Hudson and lake Champlain. The distance of this chain from the general line of sea-coast is from 130 to 200 miles, and is greatest towards the southern extremity. On the western side this ridge rises gradually to the summit; and also on the eastern, except at West Point, where the rocks are more rugged and steep. The plain here is 180 feet, and the most elevated point* 1585 feet above the level of the Hudson river. Near the borders of Virginia and Carolina, this ridge unites with the great western chain. Its base along the level of the western waters is found to be higher than on the eastern, or Atlantic side, by 800 or 1000 feet. This chain is crossed nearly at right angles by several of the larger rivers in their passage to the sea.

Western Chain.—The western chain, near the southern extremity, is known by the name of

* *New Beacon.*

Cumberland and Gauley mountains, and afterwards by that of Alleghany. It is broader and more elevated than the former, and particularly in Virginia and Pennsylvania, where it separates the waters of the Kenhawa, and the Monongahela and Alleghany branches of the Ohio, (which flows into the Mississippi,) from those of James River, the Potomac, and Susquehannah, that run into the Atlantic Ocean. From the northernmost and less elevated spurs of this chain the Genessee river, which flows into Lake Ontario, takes its rise, as do also some of the northern branches of the Susquehannah, which traverse the highest parts in their passage to the main stream. Above this river the chain takes a more eastwardly direction to its termination, under the name of the Catskill Mountains, near the Mohawk branch of the Hudson, where it gives rise to the Delaware river, which empties itself into the bay of the same name in the Atlantic Sea. The Blue Mountains, united by a transverse ridge with the western chain, on the borders of Virginia and North Carolina, become more elevated than the former, and, by spurs running irregularly, send into the Atlantic the waters of the Roanoke, Pedee, Santee, and Savannah, in an eastern direction; in a southern, some of those of the Alabama, which are discharged into the Gulf of Mexico; and, in a western, those of Broad River,

which traverses the Alleghany chain to join the Holstein branch of the Tennessee, that empties itself into the Ohio.*

Height of different Points of this great Chain.—

The mean elevation of the western ridge, as has been already stated, is about 3000 feet above the level of the sea; but, at particular parts, it falls much below, and rises much above this. The height of different peaks, as ascertained by means of the barometer, or from trigonometrical mensuration, is as follows :

The *Green Mountains* extend from Canada through Vermont, Massachusetts, and Connecticut, from north north-east to south south-west, 400 miles in length, and from ten to fifteen in breadth. They have a peak in the State of Vermont, known by the name of Killington, which, according to actual mensuration, is elevated 3454 feet above the level of the ocean, and 3184 above the level of lake Champlain, at the mouth of Otter Creek.† According to the barometrical observations of Captain Partridge, (of the corps of engineers, professor of mathematics in the military academy at West Point,) Killington Peak is elevated 3924

* See Report of the Secretary of the Treasury (Mr Gallatin) on Public Roads and Canals, 1808, pp. 20 and 21.

† Williams's History of Vermont, p. 21.

feet above the sea, and 2994 above its base, the difference being 930 feet.

The *White Mountains* of New Hampshire, according to the barometrical observations of the same professor, have their highest point, Mount Washington, elevated 6600 feet above the sea, and 4712 above its base.

The next, situated to the south of the former, - - - 5693 above the sea.

The 3d, do. - - - 5393

The 4th, - - - 5190

The 5th, - - - 5025

The 6th, - - - 4646

The height of the base of these mountains above the sea is 1888. *

By the more recent barometrical calculations of Dr Cutler and Professor Peck, their elevation above the level of the sea does not exceed 7000 feet ; † and, by the last calculation made by Professor Bigelew and others, they do not much exceed 6000 feet. ‡ The altitude of the most elevated of Catskill mountains, in the State of New York, town of Windham, and county of

* Hosack's American Medical and Philosophical Register, Vol. III. p. 47. New York, 1814.

† Memoirs of the Academy of Arts and Sciences, Boston. Vol. III. No. 43.

‡ Medical Repertory, Jan. 1817. Preface, p. 5.

Green, has been ascertained from barometrical observations by Captain Partridge. The point called *Round Top* is 3804 feet above the level of the sea, and 3105 above its base. The base of this range is 699 feet above the sea.* Schooley's Mountain in New Jersey, which projects in a southern direction from the great ridge, rises 600 feet above its base, which itself is 500 above tide-water. According to the barometrical observations of Captain Partridge, the greatest height of the Never Sink Hills, near Sandy Hook, does not exceed 300 feet.†

The height of some of the most elevated parts of the mountains in Virginia above tide-water, ascertained by Colonel Williams, President of the United States' Military Philosophical Society, &c. was as follows :

The highest point of the Blue Ridge near Rock		
Pit Gap,	- - -	1908 feet.
The foot of the Blue Ridge on the		
western side,	- - -	895
The summit of the first mountain		
near the warm springs,	-	2018
The summit of the second mountain		
near the warm springs,	-	2380

* See Medical and Philosophical Register, Vol. III. p. 48.

† Geological observations by Professor Mitchell, in Bruce's Mineralogical Journal, Vol. I. p. 70.

The summit of the Alleghany ridge
about six miles east of the sweet
springs, - - - 2988 *

Highest Mountains of South Carolina.—*Table Mountain*, situated a little westward of the south fork of Saluda River, and between four and five miles from the northern boundary of the state, is elevated above its base 3168 feet, according to trigonometrical observation, and is supposed to be 4300 feet above the level of the Atlantic Ocean. †

Highest Mountains of Georgia.—*Canawhee Mountain*, the southern extremity of the Blue Ridge, about sixty miles from the northern boundary of the state, is elevated 1500 feet above the level of the sea. Mr Williamson remarks, that the general height of the Apalachian mountains is found to be near 1100 yards. In some parts, they rise three quarters of a mile above the common surface of the earth; but in many places, they do not exceed half a mile. ‡

The double chain of the Alleghanies, as already observed, separates the streams that flow into the Mississippi from those that run to the Atlantic Ocean; and the direct distance in miles, from four

* Medical and Philosophical Register, Vol. III. p. 47.

† Drayton's View of South Carolina. Charleston, 1802, p. 12.

‡ On the Climate of America, &c.

of the sea-ports to the nearest branch of the four great western rivers beyond the mountains, is as follows :—From Philadelphia to the confluence of the Conemaugh and Loyalhannen branches of the Alleghany, 220 miles. From the city of Washington to the confluence of the Monongahela and Cheat rivers, 150 miles. From Richmond to Morris, on the Kanhawa, below all the falls of that river, 210 miles. From Savannah or Charleston to any navigable branch of Tennessee, the distance is nearly 300 miles. The upper navigation of the rivers of the Atlantic corresponding with these western points being susceptible of considerable improvement, the distance between them is not exactly ascertained. Between the waters of the Potomac and those of the Monongahela, the shortest portage from West Port on the former to a point just below the falls of Cheat river, is about fifty miles in a straight line. On account of the navigation of the Potomac, a longer route has been preferred, extending from Cumberland to Brownville, (Red Stone old fort,) a distance of seventy-two miles. Between the north fork of the Juniata branch of the Susquehannah and the corresponding waters of the river Alleghany, the portage is somewhat shorter. Between Pattenborough, on James River, and the falls of the Kanhawa, it exceeds 100 miles. The lower falls of the Atlantic rivers are formed by a ridge, rising about 130 feet above

tide-water, and extending from the Hudson to beyond James River, after which it recedes from the sea, pursuing a southerly direction, nearly parallel to the mountains, leaving a longer and better navigation between the tide and the falls. In all this distance the granitic ridge forms a barrier to the tide, which does not approach nearer than thirty miles to the eastern chain; but, in the north, or Hudson's River, it passes through the Blue Ridge at West Point, and ascends above the eastern termination of the Catskill, or Great Western Chain, to Albany, 160 miles above New York, affording a fine navigation throughout all this distance for vessels of eighty tons. *

Geological Structure and Nature of the Soil.

The soil, in relation to its interior structure, has been divided by Volney † into five regions.

Granitic Region.—This region extends from Long Island, in the Atlantic Ocean, to the mouth of the river St Lawrence, is bounded by that river to the place called the Thousand Isles, and thence proceeding to the source of the Mohawk, and

* Report of the Secretary of the Treasury (Mr Gallatin) on the subject of Public Roads and Canals, p. 24, &c.

† Tableau du Climat et du Sol des Etats Unis d'Amerique. Paris, 1803.

along this stream to its confluence with the Hudson, and down that river to Long Island. Granite is traced along the coast of Connecticut, Rhode Island, Massachusetts, New Hampshire, and Maine. It forms the great body of the White Mountains, and, with some exceptions, is the bed or stratum on which the superficial soil reposes throughout all this space. Descending towards the south-west, it appears to form a great part of the mountains on the Sasquehannah, between Harrisburgh and Sunbury, and also of the south-west chain in Virginia, particularly on the borders of the Rivanah. *

The strata of a different nature interspersed throughout the north-eastern granitic region are—

1. Long Island, which contains no granite, except a small space near Hell Gate, the ridge of hills which run across it being composed of limestone, sand, gravel, and loam.
2. Cape Cod, which is formed of sand, deposited by the current of the Gulf of Mexico and the Bahamas.
3. Above Poughkeepsie the rocks are schistus, composing a calcareous stratum, of which there is a mass of 800 acres near Claverack, on the banks of the Hudson, 140 miles from the sea.
4. The summit of the Catskill mountains is argillaceous or siliceous.
5. The valley of Fort George, some of the islands of the lake of the

* Mease's Account of the United States, p. 48.

same name, and a tract of several miles round the great falls of the Hudson are of limestone. 6. The rocks of Ticonderoga are of sandstone. 7. The bed of the cataract or falls of the Cohoez is of serpentine. 8. The banks of Lake Champlain, and the rocks which form the isle on which stands the city of Montreal, are calcareous. According to the mineralogical reports of Dr Mitchell, the bed of the Mohawk does not separate the granite from the sandstone country; for on the eastern side of Hudson River towards the north, there is no granite except on the tract called the Western Line of Connecticut. He further remarks, that from Stockbridge to Vermont the rock is calcareous: That the bed of the river Cohoez is of slate; of which substance are also the rapids of Fort Millar and Fort Edward, and the bed of the Kyaderossa stream near the Battstown springs. According to M. Maclure, † the region of primitive rocks, after crossing the Hudson, is much diminished in breadth throughout the middle states, but is enlarged in the southern, and again diminishes towards its apparent extremity near the Tombigbee River, where commences the alluvial soil: after crossing the Hudson River, its north-western boundary, it passes ten or fifteen miles eastward from Easton on the Delaware, a few

* Medical Repository. Vol. I. and III.

† Geological Memoir, inserted in the sixth volume of the Transactions of the Philosophical Society of Philadelphia.

miles eastward of Reading on the Schuylkill, and of Middleton on the Susquehannah, where it joins the Blue Ridge, along which it continues to Magothy Gap, and thence in a south-westerly direction to its extremity. It varies in breadth from twenty to a hundred and fifty miles, and includes within it a range of transition and secondary rocks from fifteen to twenty-five miles in breadth, and about 300 miles in length, though with some interruptions. The former extend from Rhode Island to Boston : they again appear to the south-west side of the Delaware ; and traversing Lancaster, &c. stretch to the upper branches of the great Pedee River in North Carolina ; forming a deposit of great length, varying in breadth from two to fifteen miles. The secondary rocks extend on the western side of Connecticut River from Newhaven to Northampton, again appear south-west of the Hudson, cross the Delaware, where their breadth is diminished ; pass a few miles west of York in Pennsylvania, and crossing the transition rocks near Fredericktown in Maryland, they terminate a little south-west of the Rappahanock River. A bed of coal, twenty miles in length, and ten in breadth, superposed on the primitive rock, commences twelve miles from Richmond. This substance is mixed with whitish sandstone, and argillaceous schistus, and exhibits vegetable impressions. The transition rocks are composed of fine grained limestone of various hues, mixed

with silex, white grained marble, calcareous spar, cubical pyrites, galena, &c. The secondary rocks are composed of sandstone, limestone, agglomerated flints, and *wacke*, which generally covers the sandstone on the heights. The strata of the primitive region, which contains a great variety of minerals and metals, incline to the south-east at a greater angle than 45 degrees, and are sometimes almost vertical. The grit, or sandstone region, comprises all the mountainous country of the Blue Ridge, Alleghany, and Laurel Hill, the sources of the great Kanhaway, and the knot or bow of the Alleghany to Georgia. It does not appear in the state of Tennessee, and the Cumberland mountains. Towards the north and north-east, it is bounded by the sources of the Susquehannah and the Genesee; and the right bank of the Mohawk and the Hudson, where commence the slaty schist and blue marble, which appear to form the beds of the lakes Genesee, Ontario, and Erie. It was traced by Mr Guillamard, from Philadelphia to Pittsburg, by the way of Sunbury, as far as the western side of the Alleghany chain, except in some vallies of a calcareous structure; by M. Volney, across ten or twelve ridges in Virginia, from Charlottesville to the river Gauley, except in the vallies of Staunton and Green Briar, which are also calcareous. In some places it is blended with grey and white quartz. It sometimes appears in the granitic and

calcareous region, and is most extensive in Massachusetts, in the county of Worcester; between Green Briar and Gauley rivers, and from above the sources of the Potomac to those of the Yohogany, in the track known by the name of *Green Glades*, where there is a most brilliant verdure.

The transition rocks form a long and narrow zone, from twenty to forty miles in breadth, which extends from beyond the Green Mountains, in the state of New York, the north-eastern side of the Hudson, to the south-western borders of the Tombigbee. The strata generally dip to the north-west, and, in many places, the inclination is less than forty-five degrees. Among these rocks are found limestone of various colours, breccias, siliceous, and calcareous rocks, greywacke, siliceous slate, amygdaloid, &c. *

The *Calcareous, or Limestone Region*, includes all the western or back country, extending between the Apalachian mountains and the great lakes of Canada, in one direction, and from the Hudson to the Mississippi, in another, descending as low as Natchez. It forms the beds of all the rivers of Kentucky, from the Kanhaway to the rapids of the Ohio. The limestone, disposed in horizontal layers from one to several inches in thickness, is of a close texture, and, generally, of a grey co-

* Maclure.

lour. Sometimes the layers undulate with the inequalities of the land. In this region, which occupies a surface of from 200 to 500 miles in width, coal abounds from the sources of the Ohio to those of the Tombigbee; also gypsum and sal gem. The only metals which it contains are pyrites and argillaceous iron. Without the track of limestone above described, veins of the same mineral exist in Pennsylvania, Virginia, and New York, along the extern side of the Blue Ridge. In Ulster county, the hills above Kingston consist of limestone, in regular forms of crystallization. It is remarked, that the strata on the eastern side are more irregular, generally of a deep blue colour, interspersed with veins of white quartz. At Stockbridge, Staunton, Fredericktown, York, and Lancaster, and as far as Nazareth, the inclination is commonly from forty to fifty degrees. The cataract of Niagara is formed of a limestone rock, which extends into the Genessee county. This great stratum of limestone is covered with black mould, which, on the slopes and heights, is but a few inches in depth, but in the vales and bottoms increases, in some places, to fourteen or fifteen feet.

Region of Sea Sand.—This fourth region comprises all the maritime plains, from Sandy Hook, opposite Long Island, to Florida, between the granitic ridge and the ocean, running from south-west to north-east, and elevated about 130 feet

above tide-water, of which it forms the limits, occupying a breadth of from thirty to a hundred miles. It strikes the Delaware at Trenton; the Schuylkill six miles above Philadelphia; the Susquehannah above the mouth of Octoraro; Gunpowder Creek above Jappa; the Patapsa above Elkridge; the Potomac above Georgetown; the Rappahanock above Fredericksburg; the Pamunky below its two branches, fifty miles above Hanover; James River at Richmond; the Apamatox above Petersburg; and the Roanoke above Halifax.* Throughout all this extent the sand is about twenty feet in depth, and of a black colour; it resembles that of the adjacent sea, except at the mouths and on the borders of rivers, where, in many places, there is a rich stratum of clay and vegetable soil deposited by the waters in their descent from the mountains. Pownall observes, “ that this reef, “ which forms a regular curve, was the ancient “ maritime boundary of America; and that the “ land between this and the sea may be denominated the *lower plains*, which, when not penetrated by rivers, are a white sea sand, about “ twenty feet deep, and perfectly barren; but the “ borders of rivers are rendered fertile by the soil “ washed down by the floods.”

The *Alluvial Soil* extends, in an undulating

* Pownall's (Thomas) Topographical Description.

surface, from the granitic ridge to the foot of the mountains, including the whole coast, from ten to two hundred miles in breadth. Its line of boundary, on the north-west, passes near Amboy, Trenton, Philadelphia, Baltimore, Washington, Fredericksburgh, Richmond, a little west of Halifax, and Fayetteville, in North Carolina, and of Camden in South Carolina; near Columbia, Augusta on the Savannah, and thence taking a westerly direction, crosses the Ogeehee, Oakmulgee, Alibama, and Tombigbee rivers, and passes to Natchez on the Mississippi.* From the Hudson to the Mississippi river, this track gradually enlarges towards the latter, extending up both its banks as high as the confluence of the Illinois, nearly on an equal level, and rising insensibly towards the Alleghany. From the foot of the mountains to the sea, there is a gradual descent of above 1800 feet: a similar inclination is observable from the valley of Natchez to the Bay of Mexico, down which immense masses of earthy matter and trees are annually borne by numerous rivers of great dimensions, which sometimes swell to the height of twenty or thirty feet above the ordinary level. Proceeding from Georgia to New York, the elevation of this soil

* Cleaveland's Remarks on the Geology of the United States, p. 637.—Of his Elements of Mineralogy. Boston, 1816.

above the level of the sea gradually diminishes. It is formed of horizontal layers of black vegetable mould, peat, gravel, sand, clay. On the more elevated parts are found pudding stone of a round form ; in the lower parts bog-iron and tufa. It contains marine shells and animal remains, of which there are immense beds in the Carolinas and Georgia, twenty or thirty miles from the borders of the sea, and at the depth of eighteen or twenty feet. In Maryland, a ridge of sandstone runs in a parallel direction to the primitive ridge, and at the distance of fifteen miles south. The banks of the Mississippi, to the distance of more than 300 miles from the sea, are formed of trunks of trees cemented by mud, which have gradually risen from twelve to sixteen feet above the adjacent land.* The valley of Natchez, which is thirty miles wide, has been formed by the deposits of the Mississippi. This soil, at the town of Natchez, is a hundred feet above the level of the sea.† “ On the shores “ of York River,” says the author of the *British Spy*, “ the bones of whales abound, and in wash- “ ing the sand beach of that river, during the re- “ cess of the tide, and looking up at the high cliff “ or bank above, we find strata of sea shells in

* Volney, p. 74.

† Dunbar, Transactions of the American Philosophical Society, Vol. VI.

“ perfect preservation, of the same kind as those
“ which lie on the beach under the feet, interpos-
“ ed with strata of earth, (the joint result, no
“ doubt, of sand and putrid vegetables,) exhibiting
“ at once a sample of the manner in which the
“ adjacent soil had been formed, and proof of the
“ comparatively recent subsidence of the waters.”*

In the district of Columbia, near the capital, mineralized wood, and trunks in a natural state, have been dug up from the depth of forty-five or fifty feet. In cutting the Santee canal, in South Carolina, several teeth of the shark were found, one of which is four inches long, and its base three and three quarters. † On the banks of the Meherim River, in North Carolina, the skeleton of a shark, forty feet in length, has been lately discovered; one of the vertebra weighs twelve pounds and a half, a tooth sixteen ounces. The great rise of James River, in September 1816, when its waters covered the wharfs six or seven feet in depth, gave rise to the following calculation: Allowing the river here (Richmond) to be 2000 feet in width, and the water, on an average, to be six feet deep, the waters moving at the rate of ten feet a second,

* By Judge Wirt, Letter ii.

† Preserved in the cabinet of the Philosophical Society of Philadelphia.

(a calculation within the bounds of reality,) then 7,200,000 cubic feet, or 200,000 tons pass every minute. The water is very yellow, probably a twenty-fifth part is earth; supposing this, when deposited, to weigh double the same bulk of water, there would be 663,000 square feet; now, by extracting the cube root, we have the cubic bulk, which is only eighty-six feet, which would cover a square mile about one-third of a square inch. This deposition, though slow in its progress, will yet, in process of time, make great encroachments on the Atlantic.* Mr Melish, estimating the Mississippi at two miles in breadth, twenty in depth, and its mean velocity four miles an hour, found the discharge of water to be 94,000,000 of gallons *per second*. But Mr Bradbury, who has since considered this subject, remarks that, according to these data, the quantity is only 18,537,325 gallons, and that this estimate was made on the dimensions of this river near its mouth, without considering the water which escapes by the different *bayous*. That the depth is also greater than forty feet; for in no place, from Orleans to its mouth, is it less than thirteen fathoms, or seventy-eight feet; and that the mean state of the river, when it maintains its full magnitude, from below Red

* Richmond Patriot.

River to the Bayou d'Alfalie, a distance of three miles, is perhaps about 60,000,000 gallons *per* second. (p. 239.) In the southern states the rivers often change their beds, and the land, in many parts, has, within a short period of time, encroached upon the ocean. On the coast of North Carolina, at Cape Lookout, there was a harbour which, in 1771, was capable of receiving a hundred sail, and now the whole is solid ground. Dr Mitchell remarks, that from the Bay of New York to the Gulf of Mexico is a low, flat, sandy beach; the soil, for a great distance from it, sandy and barren, in which nothing is to be found, either on the surface or in the bowels of the earth, but beds of sea-shells instead of stones, metals, and other minerals.

Lakes that have disappeared.—Mr Volney is of opinion, that the chain of Blue Mountains was once entire, and the great valley to the west a lake or internal sea, which became dry by openings that gradually deepened, and afforded passage to the great rivers. He remarks, that this operation would not be difficult, as this ridge is not entire, but composed of separate blocks of various dimensions, the interstices of which are filled with earth. In proportion as these openings were made the

* Present State of Great Britain and North America, 1767.

waters sunk, forming small lakes, by the heights or ridges which rose above the level of the bottom of the primitive gaps, and at last became dry by the deepening of the beds of the rivers. The waters of the Hudson were shut up by the transverse ridge called the Highlands, and raised thereby to a considerable height, and probably connected with lakes George and Champlain. The formation of the Cohoez took place after the disruption at West Point. The Ohio, dammed up by a ridge at Silver Creek, or by some other eminence, would form a lake of vast extent, for the land lying between the Ohio and the great lakes is so level, that a mound 200 feet in height, placed at the above creek, would not only spread the waters towards Lake Erie, but extend them from the rampart of the Alleghany to the north of Lake Superior. The beds of coal, in the vale of the Ohio, were, most probably, formed by the trees deposited by the rivers flowing from the Alleghany and Laurel ridges. An examination of some of the fossil shells of this country led Lamark to the same opinion, that it must have been once covered with water. * Of this the salines afford another proof, the richest of which contain one-

* He refers them to the *Tenebratulæ* genus of fossils, belonging to the class of *Pelagiæ*, because never found near the shore but at the greatest depths of the sea.

eighteenth of the whole weight in salt, while the northern seas contain but one-thirty-second, and those within the tropics one-twelfth part. Dr Brown, in his essay on the medical topography of the country watered by the Mohawk, is of opinion, that the tract west of the little falls, from five to fifteen or twenty miles on each side of the river, has been once a lake. The appearance of the hills, of the limestone, shells, and loose stones, confirm his opinion; and, nearly a mile below the present falls, the rock, in several places, is excavated in large, circular, and smooth cavities, from twenty to forty feet above the highest water. *

Earthquakes.—On the maritime coast earthquakes have been numerous since the arrival of the first English colonists, in 1628. The first is thus described in the history of the earliest establishments, entitled, Wonder-working Providence, (page 131.) This year, (1638,) the first day of the fourth month, about two o'clock in the afternoon, the Lord caused a great and terrible earthquake, which was general throughout all the English plantations. The motion of the earth was such, that it caused divers men, (that had never known an earthquake before,) being at work in the

* American Medical and Philosophical Register, Vol. IV p. 172, year 1814.

fields, to cast down their working tools, and run, with ghastly terrified looks, to the next company they could meet withal. It came from the western and uninhabited part of this wilderness, and went the direct course. In the course of 150 years from that period, mention is made of forty-five; and Mr Volney remarks, that the line of this subterraneous fire runs north-west and south-east, affecting very much the direction of the sea and Lake Ontario, the bed of which lake he supposes to be the crater of an extinguished volcano. This opinion is strengthened by its circular form; by its fathomless depth, even near the shores, and by volcanic substances found therein. In 1812, New Madrid, on the Mississippi river, was nearly destroyed by an earthquake. *

Of the extent and quality of the land susceptible of cultivation.—According to the calculations of Hutchins,† the boundary of the United States, as defined by the peace of 1783, circumscribed a surface of about 1,000,000 of English square miles, or 640,000,000 acres, 51,000,000 of which are covered with the water of lakes, rivers, and bays, as exhibited in the following table made by computation, and not by actual survey :

* American Medical and Philosophical Register, Vol. IV. 172, year 1814.

† Then Geographer to the United States.

Lake Superior,	-	-	21,952,780	acres
Lake of the Woods,	-	-	1,133,800	
Rain Lake,	-	-	165,200	
Red Lake,	-	-	551,000	
Lake Michigan,			10,368,000	
Bay Puan,	-		1,216,000	
Lake Huron,	-		5,009,920	
Lake St Clair,	-	-	89,500	
Lake Erie, (western part of,)			2,662,800	
Sundry small lakes and rivers,			301,000	
Lake Ontario,	-	-	2,390,000	
Lake Champlain,	-	-	500,000	
Chesapeak Bay,	-	-	1,700,000	
Albemarle Bay,	-		330,000	
Delaware Bay,	-	-	630,000	
All the rivers within the thirteen				
states,	-	-	2,000,000	
				<hr/>
				51,000,000 acres.

The name of western country, now extending to Louisiana, includes the state of Kentucky, Tennessee, Alabama territory, and state of Mississippi, to the south of the Ohio river; on the north, Ohio; Indiana, Michigan, Illinois, and the north-west territory, all situated on the east of the Mississippi, and on the north and west of the Ohio. The state of Louisiana and the Missouri territory, of great extent, lie on the western side of the Mississippi.

This region, extending from the Alleghany mountains on the east, and from the Gulf of Mexico on the south, to the great lakes on the north, and on the west to the high chain called Rocky, or Snowy Mountains, contains nearly a thousand millions of acres. This immense surface is intersected by innumerable rivers and streams, some of which far surpass the greatest of Europe, and afford an internal navigation for ships and boats of more than fifty-thousand miles. In spring, during the rise of the waters, those of Lake Michigan form a communication with the Illinois river, and afford an uninterrupted passage for boats by this channel to the falls of the Missouri river.* No plan has yet been adopted by the general, or state governments, for ascertaining the proportions of soil capable of cultivation, through the mode of fixing the value of lands by assessors, for the purpose of levying the direct tax, will, in a short time, afford materials for this calculation. From the Atlantic to the bottom of the great chain of mountains, the country is generally cultivated and settled, though there are many tracts of sandy or meagre soil which do not admit of a thick population. The mountains themselves are, in general, too steep and rugged for agricultural purposes, except in some parts

* Brown's 'Western Gazetteer. Prefatory, p. 6, Auburn. New York, 1817, 1 vol. in 8vo.

of Virginia, where they terminate in an almost even surface of considerable extent. The vallies formed by the great ridges are generally fertile ; and the immense country to the west of the Apalachian, or endless chain, forming an elevated plain extending to the great lakes, is supposed to contain a greater proportion of arable surface than any country of Europe, covered with fine forests, here and there intersected by natural meadows of remarkable fertility. The climate is so mild that the labours of the plough are seldom interrupted by the frost. There are few steep hills, rocks, or stones. The deep vegetable mould reposes on a bed of limestone. The country is every where intersected by rivers and streams. These advantages, so important in the formation of agricultural establishments, first struck the attention of some individuals in the year 1775, who established themselves in Kentucky, and the migration thither was thenceforth so considerable, that, in the course of ten years, the population, though constantly annoyed by the neighbouring Indians, increased to the number of 30,000. In 1810, it was found to be 406,511, at which period that of the new territories on the other side of the Ohio were increasing nearly in the same ratio.

This country, formerly called the “ *territory north-west of the Ohio,*” from its situation with regard to this river, extending to the Mississippi

on the west, and on the north to the line of boundary running through the great lakes, contained, according to Hutchins, 263,040,000 acres, of which 43,040,000 are water, leaving 220,000,000 of acres of soil. The country on the west side of the Mississippi, known by the name of Louisiana, is less fertile than on the eastern side. The lands of this territory belonging to the United States have been computed at 400,000,000 of acres, one half of which has been said to be uninhabitable. This opinion, however, is grounded on the want of timber for buildings, fuel, and fences, without considering how this article may be dispensed with by the substitution of others which the country affords. Beds of coal have been seen in several places near the surface; and the subsoil almost every where consists of a tenacious clay of which bricks may be manufactured, or mud walls made like those of Ireland. Besides, trees may be planted, which, in a short time, will supply all the necessary uses of timber in relation to domestic and agricultural life. Mr Bradbury is of opinion, that the prairie will, in the course of time, be peopled and cultivated, and be one of the most beautiful countries in the world. If, says he, I may be permitted to judge from travelling nearly 500 miles through it, I must pronounce the soil to be excellent, and in almost every part where I saw it in a state of nature, it was covered with the finest verdure imaginable. (p. 272.)

Towards the borders of Mexico there is an immense plain of sand, almost without any vegetable productions; and, in general, the country is very thinly wooded, whereas, on the eastern side of the Mississippi river, the whole surface, from the Apalachian mountains to the great lakes, is covered in its natural state with immense forests, except those tracts known by the name of Prairies, or natural meadows, which are remarkable for their great fertility. In general, the soil from the Nevesink hills in Jersey, to the extremity of Georgia, between the lower falls and the sea, 40 or 50 miles in breadth, consists of sand, except along the borders of rivers, which are rendered extremely fertile by the soil washed down by the floods. From this ridge to that chain of hills called the South Mountain, a distance of from 50 to 70 miles, which may be denominated the *Upland*, there are stripes of different kinds of soil, and subsoil, for some scores of miles in length, and in some places overlaid with little ridges and chains of hills. The declivity of the whole gives great rapidity to the streams, and the violent gusts of rain have washed it all into gullies, and carried down the soil to enrich the borders of the rivers in the *lower plains*. These inequalities render half the country now easily capable of culture, and impoverish it when turned with the plough, by the constant washing away of the richer mould that covers the surface. Between the South mountain

and the higher chain of the *Endless mountains*, there is a valley of pretty even good land, eight, ten, or twenty miles wide, which is the most considerable quantity of valuable land on the eastern side, and runs through New Jersey, Pennsylvania, Maryland, and Virginia. *

The soil of New England is most fertile in the southern and south-eastern parts, consisting of a black mould on a red loam, or clay. Some tracts are stony, some sandy, and others clayey. The low lands afford fine meadows and pasture; and there is a great diversity of soil, almost the whole of which, in Connecticut, Massachusetts, and Rhode Island, has been cleared, except spots reserved for fuel, and the sides and summits of the mountains. The soil of New York in general exceeds that of Maryland: on the coast it is sandy; but at some distance from the sea it swells into fine hills, many of which have a rich deep soil. Between these there are fine vallies, with a rich black mould, red loam, or friable clays; all covered in the natural state with fine forest trees. The Hudson River passes through a fine, dry, and low country, and its banks, now covered with plantations and farms, exhibit a wonderful variety of situations and scenery. Vast tracts in the western parts are yet unsettled. The lands along the Mohawk River are

* Pownall's Topographical Description.

excellent, as are also those in the Genessee country, where large tracts, without woods, are so covered with grass as to conceal an ox from the sight at the distance of thirty feet from the path. * In Jersey the soil in general is sandy or marshy, and inferior to that of New York. On the Rariton and other streams the soil is richer; the country variegated, and almost entirely cultivated. In Pennsylvania there is every kind of soil. The soil in the maritime parts generally consists of a light sandy loam: In the back parts there are immense tracts of a rich loam, or black mould. The meadows along the Delaware and Schuylkill are covered with a luxuriant herbage. In Maryland and Virginia, the surface along the sea-coast, for above 100 miles, is low, flat, and sandy, spread with marshes and swamps, except along the banks of the rivers, where there is a fine black mould of more than a foot deep. In the next 100 miles, and at the distance of from 100 to 150 miles from the coast, the country rises with an unequal surface, to meet the range of Alleghany mountains; and presents a beautiful appearance, spread with fine forests, and intersected with navigable rivers. It is also very fertile throughout all the back parts. The summits of the mountains in Virginia, between Geen Briar and Gauley Rivers, elevated 2400

* Description of Genessee, New York, 1799.

feet above the sea ; and all the high country, known by the name of the *Green Glades*, extending from the heads of the Potomac to those of Yoghogheny, are covered with fine woods and herbage. But the Gauley Ridge and Laurel Hill are dry and stony, with not more than one tenth part capable of cultivation. *

The states of Ohio and Kentucky are the most fruitful in North America. The lands have a greater depth and fertility. Natural meadows of great extent furnish fine pasture. The climate is favourable to the culture of the vine, the mulberry tree, and silk worm. In many parts of Kentucky, the soil is so fertile as to be too rich for wheat. On the tributary streams of the Ohio, there are large natural meadows from 20 to 50 miles in circuit, of which the soil is extremely rich ; and there is but a small proportion of waste land, for most of the hills admit of cultivation to the very summit. The soil in the maritime parts of North Carolina is flat and sandy, except along the borders of the rivers, and swampy places, which are very healthy. In the back parts the soil is a rich black mould, and very fertile. In South Carolina, the maritime parts, to the distance of a hundred miles from the coast, consists of a dry white sand, covered with

* Volney, who refers to Evans.

pinces, intersected by narrow stripes of a black rich sand, which run between the swamps and the pine barrens, and between the latter and the creeks or rivers. The first poor soil occupies nearly four-fifths of the surface. The sand hills, which extend from twenty to forty miles in breadth, from Savannah River to the upper part of Pedee River, and thence into North Carolina, are in general unproductive: But the hilly country, extending to the Apalachian Mountains, is covered with pine trees, or spreading into extensive meadows, with a dry, rich, and deep soil. The climate is also mild, healthy, and agreeable. The soil of Table Mountain, the most elevated in this state, situated about four or five miles from the northern boundary, is described to be peculiarly good, and abundantly covered with the Papaw and other shrubs, and with a profusion of excellent grass. The soil of the other mountains is more sterile and stony: but fine rivulets spring almost from their summits, which are bordered with beautiful shrubs.* The soil of Georgia, in the maritime and inland parts, resembles that of South Carolina. The flat country extends to the distance of about 200 miles from the sea, and thence to the Apalachian mountains; 100 more, there is a high dry surface with waving

* Drayton's View of South Carolina, p. 26.

hills, equal, if not exceeding in fertility, the back parts of South Carolina. The soil of Tennessee is in general fertile on the Mississippi and Cumberland rivers; it consists of light black earth with a mixture of sand. The whole country of Louisiana, from the sea to the mouth of Red River, 350 miles in length and 90 in breadth, is intersected by lakes and morasses, except along the water courses, and a small ridge below Point Coupee. All Lower Louisiana has been evidently formed from the sea. The basis of the soil is a fine white sand, and trees and marine shells, buried at the depth of twenty feet, are found at the distance of 100 leagues from the gulf. The state of Mississippi, in the maritime parts, resembles the southern countries, consisting of sandy tracts covered with white pine, swamps, and marshes, except along the banks of the rivers, which are extremely fertile. The new state of Indiana and the Illinois territory rank among the most fruitful and most agreeable in the United States, abounding in high, dry, and hilly tracts.

The description of Raynal, the once popular historian of "the European settlements in the East and West Indies," has led many foreigners into error concerning the nature of the American soil. The space occupied by the thirteen Republics, between the mountains and the sea, is, says he, but sixty-seven marine leagues; but, on

the coast, their extent, in a straight line, is three hundred and forty-five, from the St Croix river to that of the Savannah. In this region, the lands are almost generally bad, or of an indifferent quality. The four most northerly colonies produce little else than maize. The only resource of the inhabitants is the fisheries, the annual produce of which, before the war, did not exceed 600,000 livres. Corn was the principal support of the provinces of New York, Jersey, and Pennsylvania; but the soil there has so rapidly deteriorated, that the acre which formerly yielded sixty bushels of wheat now scarcely produces twenty. Although the soil of Maryland and Virginia is superior to all the others, it cannot be considered as very fertile. The old plantations yield but a third of the tobacco which they formerly produced,—it is impossible to form many new ones, and the cultivators have been obliged to turn their labours to other objects. North Carolina produces some grain, but of a quality so inferior, that it is sold in the market at 25 or 30 *per cent.* less than that of others. The soil of South Carolina and of Georgia is perfectly level to the distance of fifty miles from the ocean. The excessive rains which fall there, not finding any channel to run off, form numerous marshes, where rice is cultivated to the great injury of freemen and of slaves occupied with this labour. In the intervals left by these numerous masses of water, there

grows an inferior kind of indigo, which requires a change of soil every year. When the surface becomes elevated, we see nothing but barren sands or frightful rocks, interspersed at considerable distances with a pasturage of the nature of rushes. The English Government not being able to dissemble that North America would never become rich by its natural productions, hoped, by the powerful resource of bounties, to produce in this part of the New World flax, wine, and silk. The first was denied by the poorness of the soil, the climate was opposed to the success of the second, and the want of hands prevented the cultivation of the third. The Society established at London for the Encouragement of Arts, was not more fortunate than the ministry ; its benefits did not produce any of those objects which it had proposed to the activity and industry of these countries. Great Britain was obliged to content herself by selling yearly to those countries about fifty millions of goods. Those by whom they were consumed gave, exclusively in exchange, their indigo, iron, tobacco, and peltries. They gave what they had procured from the rest of the world in money or raw materials, in exchange for their wood, grain, rice, and salt provisions. Nevertheless the balance was always so unfavourable, that, when the troubles commenced, the colonies owed a hundred and twenty or a hundred

and thirty millions to the metropolis, and had not yet any circulation of metals.

If Raynal now lived to see the variety and abundance of the productions of the country which he describes in such unfavourable colours; if transported as a passenger in the boats propelled by steam, up the Mississippi and Ohio rivers, through the western country; were he to witness in the course of an inland voyage of more than 2000 miles, the luxuriant growth of the productions most useful to man, grain of every kind, cotton, the sugar cane, the grape, and the olive, all cultivated by the real proprietors of the soil, in full possession of their freedom, and alive to the preservation of their republican constitution, living comfortably on the fruits of their labour, and forming a part of a great confederation, which has triumphantly overcome every effort to tear it asunder; how he would have reason to smile at the recollection of his fine theory of the poverty of the soil of the New World, and the degeneracy of the men and animals that inhabit it.

CHAPTER THIRD.

OF THE AMERICAN LAKES AND RIVERS.

THE great lakes, or inland seas, situated towards the northern extremity of the United States, which they separate from the British possessions, are five in number; namely, Lake Superior, Huron, Michigan, Erie, and Ontario.

Lake Superior, the first and most northern, formerly known by the name of Lake Tracy and Lake Condé, is situated between $46\frac{1}{2}^{\circ}$ and 49° degrees of north latitude, and between 84° and $92^{\circ} 10'$ west longitude from Greenwich. Its greatest length from east to west is 410 miles; its greatest breadth from north to south 120 miles; its circumference following its shores and bays is, according to Mackenzie,* 1200 miles; and by the calculation of Faden,† 1525. Along the northern shore there is a great depth of water.

* Mackenzie's Voyages, Vol. I. p. 50. London, 1802.

† Description of Canada, published by Faden, Geographer to his Britannic Majesty. London, 1813.

The rocks rise from 300 to 1500 feet, and during a strong wind, render the navigation dangerous, which would be still more so, if it were not for numerous islands situated near the entrance of inlets and bays, where vessels find shelter. One of the most remarkable is on the east side of the Grand Portage, (in latitude 48° north, and 90° longitude,) the harbour of which is screened by an island from all winds except the south. Vessels anchor at the distance of a mile from the shore, where there are fourteen feet water. The southern side of the lake is a sandy beach, interspersed with rocks of limestone rising 100 feet above the surface of the water ; or of strong clay mixed with stones, which renders the navigation on this side also dangerous, there being no bay throughout its whole extent. At the distance of thirty leagues from the entrance of the lake, a point of land advances considerably into its waters, forming a peninsula which the French called Kioneouan. The portage across this neck of land is but 2660 yards. This lake is the greatest body of fresh water on the face of the globe. It receives the waters of forty different streams, (the principal of which are the St Louis, Nipigon, Pic, and Michipicoton,) which it discharges into Lake Huron by the Straits of St Mary ; but the quantity which escapes by evaporation is so great, that not more than a tenth part

(as is conjectured) passes through this channel. The following phenomenon is not uncommon. When the wind blows from the east, the waters are driven against the high rocks of the northern and western shore, where they form a thick vapour resembling rain ; and this action of the wind creates an irregular ebb and flow which never exceeds ten or twelve inches ; but the strong traces of the water on the rocks of the shore shew that at no very remote period they were elevated six feet above the present level. Some few years since, the waters suddenly withdrew near the great portage, then rushed back with velocity, and, after rising and falling during several hours, they settled at their usual level.* Lake Superior contains a number of islands, one of which, named *Isle Royale*, situated near the north-west coast; is a hundred miles in length, and, in some places, forty in breadth. The other principal islands are seven in number. 1. *Isle Grange*, situated near the north shore in front of Grange Bar. 2. *Isle de Minatte*, opposite Black Bay on the same shore. 3. *Michipicoton*, on the north-east side, at the entrance of a bay of the same name. 4. *Isle Montreal*, near the shore towards the east, between the mouths of the rivers Montreal and Charron. 5. *Patie Island*, on the

* Mackenzie's Voyage, Vol. I. p. 51.

north coast, near the west cape of Thunder Bay.

6. *Isles aux Rables*, several small islands at the entrance of the lake. 7. *White Fish Island*, a little west of the former. These islands were formerly known to the French traders and missionaries, and afterwards to the geographers, by the names of Isle Royale, Isle Minong, or Phillipeaux, Ponchartrain, Maurepas, Hocquart, St Anne; the Isle of St Ignatius on the northern side near the middle; on the southern those of St Francis Xavier and St Michel. This lake abounds with fish, which constitutes the chief food of about 150 families of Algonquin Indians who inhabit its borders. The white fish, known by different Indian names, Ticamang, Astikameque, is greatly valued. It is shaped like a mackerel, and weighs from four to sixteen pounds. There are three kinds of trout, varying in size from five to fifty pounds. The other fish are sturgeon, pike, pickerel, red and white carp, black bass, trout, herrings, or a fish of a similar shape and taste. The soil on the borders of this lake is not favourable to the growth of grain; but there are some meadows which yield good crops of hay. Numerous springs issue from the neighbouring hills, and preserve a constant humidity on the surface. This is increased by the vapour of the lake, which is often so dense as to intercept the sun's rays. The borders of the rivers were formerly covered with woods, which have

been destroyed by fire, and the moose and fallow-deer, deprived of shelter, have entirely disappeared, leaving the bears in full possession of the different kinds of wild fruit, whortle-berry, gooseberry, and raspberry, which grow there in great abundance, and constitute their favourite food. Beneath a hill on the northern side, 300 or 400 feet in height, there is an establishment of the North-West Company, who purchase furs in exchange for British manufactures. At the foot of the Rapids of St Mary is situated the factory of the Montreal Company, where a canal has been opened to communicate with Lake Huron. The waters of Lake George, situated between this last lake and the Straits of St Mary, are shallow throughout their whole length of twenty-five miles. Concerning the knowledge which the French possessed at an early period of the communication between the waters of this lake and those of Hudson's Bay, the following information is given by one of the geographers of that nation. * In the year 1661 they formed an establishment on the southern side of the lake, for the purpose of trade with several Indian nations,—Outagamis, Sakis, Outauouais, Hurons, and Illinois. A missionary resided

* *Betlin, Remarques sur la Carte de l'Amerique, &c. p. 70—75. Paris edition in 4to, 1755.*

there, and the place situated in the cove of Chagouamigon, near the Isles of St Michael, had the name of the mission of the Holy Ghost, (*St Esprit.*) At a remarkable place near the bottom of a lake called Camanistigouia, they afterwards constructed a fort, or post, where commenced the chain of communication with the western establishments extending towards Hudson's Bay, along Rain Lake, (*Lac de la Pluie,*) the Wood Lake, (*Lac du Bois,*) the rivers Maurepas, Assiniboels, Red River, Swan Lake, (*Lac des Cygnes,*) Meadow Lake, (*Lac des Prairies,*) Lakes Ouinipigon and Bourbon, and to the river Poskouyak. Their distances were thus estimated: From the first post on the lake, ascending the river, to the ridge where the waters begin to flow towards the west, twenty-five leagues; from this height to Fort St Peter, situated at the outlet of Rain Lake, ninety-five leagues; thence to Fort St Charles, on the south-west side of the Lake of the Woods, eighty leagues; thence to Fort Maurepas, on the northern side of the river of the same name, near the entrance of the Lake Ouinipigon, a hundred leagues; from this last fort to that called *La Reine*, on the northern side of the river Assiniboels, a hundred leagues. The portage, or distance by land from Fort la Reine to Fort Dauphin, on the most southern part of Meadow Lake, was three leagues; thence by the Ouinipigon and Bourbon,

there was a water communication to Fort Bourbon, situated on the lake of the same name, near the mouth of Hind River, (*La Rivière aux Biches*,) from Fort Bourbon to the river Poskouiak, thirty leagues. In 1687 this communication was traced on a map by Franquelin, a French geographical engineer. The Lakes Ouinipigon and Bourbon, by which it is chiefly formed, were by him named the Assiniboels and Christinaux Lakes. The route from the northern side of Lake Superior to Hudson's Bay was first discovered by Perray, an inhabitant of Canada.*

Lake Huron, the second in extent, which, after its first discovery, was called the Algonquin and Orleans Lake, is situated between $42\frac{1}{2}^{\circ}$ and $46\frac{1}{2}^{\circ}$ of north latitude, and between 80° and $84\frac{1}{2}^{\circ}$ west longitude from London. Its length from west to east is about 250 miles; its greatest breadth from south to north about 200; near the western extremity it contracts to less than 100, and about this distance from its eastern side, to 60 miles. Its circumference along the line of the shore is about 1100. Near the middle parts its waters are unfathomable. At its north-western extremity are the Straits of Michillimackinac, a channel six miles in length, which forms the communication between its waters and those of Lake Michigan; and at the

* Bellin, *Remarques sur la carte de l'Amerique*, &c. p. 70—75. Paris, 1755.

fluence of these lakes is an island which bears the name of the Strait, situated in latitude $45^{\circ} 54'$. At the southern extremity is the river and lake St Clair, the outlet of the waters of Lakes Superior, Michigan, and Huron, which run into the west side of Lake Erie by the channel known by the name of *Detroit*. This strait, from half a mile to three miles in breadth, is sufficiently deep for vessels of considerable burden. The river St Clair, thirty-three miles in length, and 400 yards in breadth, is also navigable for large vessels as well as the lake, which is about ninety miles in circumference, and situated at an equal distance between Lakes Huron and Erie. *Bays*.—On the southwestern side of Lake Huron are two remarkable bays; the one, known by the name of *Sagana*, or Saguinam, which receives the waters of two rivers, is eighty miles in length, and twenty in breadth. the other, called *Thunder Bay*, in French *Anse au Tonnerre*, on account of the thunder storms which there frequently occur, is nine miles in length, and of nearly the same breadth. On the eastern side is *Glocester Bay*, which receives through the channel of the Swan River the waters of Lake Simcoe. The northern coast of Lake Huron is cut by a number of streams, the most important of which is French River, the outlet of the waters of Lake Nipissing, which is twenty-five leagues in length; but the navigation is difficult.

owing to numerous falls and rapids. Several streams issuing from small lakes run also into the eastern side. The most considerable is that of Tarento, now Simcoe, which forms a communication with Lake Ontario. Two rivers discharge their waters into Lake St Clair, the largest of which, the Thames, formerly New River, is navigable to a considerable distance. The banks on the English, or northern side, are generally rocky and barren, producing scarcely any other vegetable than *sand cherries*, which grow there in great abundance. On the eastern and western sides are considerable tracts of wood-land; and as far south as Detroit, the country is broken, and produces oak, pine, maple, birch, and beech. From the mouth of French River, which enters the lake in latitude $45^{\circ} 53'$ north, to its termination in Lake Nipissing, a distance of twenty-five leagues, the whole surface is rocky, without any appearance of arable soil. At the easternmost extremity is a large promontory called Cabot's Head, which stretches towards the Manitou Islands. These islands, of which there are a number, extend fifty leagues along the north side of the lake, their breadth being from two to three leagues. They have been represented by Bellin and other geographers as a continuation of the same isle, known by the name of Manitoualin. They were formerly frequented by the Chippeway Indians, by whom they were considered as the place

of spirits. The other islands are, 1. *La Cloche*. 2. *Duck Islands*, between this lake and Lake Huron, to the south and east of St Joseph's Island. 3. *Flat Islands*, towards the west end of the Manitou islands, and opposite the Straits of Michillimackinac. 4. *Grosse Isle*, or *Michillimackinac*, situated in the strait between this lake and that of Michigan, in $45^{\circ} 48'$ of north latitude, and close to the western shore, contains several thousand acres of excellent land, on which a number of farm houses are established. 5. *Prince William's Island*, formerly called *Isle Traverse*, in Gloucester Bay. 6. *St Joseph's Island*, on which is situated a British military establishment. 7. *Hog Island*, the lower extremity of which is two miles above Detroit, contains a surface of 1700 acres, one-fifth or more of which is fit for tillage. 8. *Bois Blanc*, near the eastern shore, is covered with wood, and contains about 200 acres of good soil. This island commands the Detroit river from Lake Erie, the ship channel lying between the eastern shore and this island. 9. *Peach Island*, seven miles above Detroit, contains from sixty to a hundred acres of arable land. The islands of Lake St Clair are, 1. *Chenal écarté* Island, situated near the entrance of the river St Clair into the lake of the same name, contains 300 acres of arable land, and a considerable extent of meadow. 2. *Harson's Island*, near the entrance of the river St Clair, contains 300

acres of arable soil. 3. *Hay Island*. 4. *Peach Island*. 5. *Thompson's Island*, near the entrance of the river St Clair. Lake Huron was known to the French at an early period. In 1671 Father Marquette induced the Huron nation of Indians to settle opposite the island of Michillimackinac, on the continent which separates the waters of the two lakes, then known by the same name, and also by that of the mission of St Ignatius. The communication with the river St Lawrence was across the lakes Ontario and Erie, or by Lake Nipissing, and the river of the Ouataouis, (La Chaudiere, or Grand river,) which joins the St Lawrence above the island of Montreal.* Before the late war, the island of Michillimackinac was the great place of resort among Indian traders and the factors of Montreal, who met there annually about the first of May, and remained two months for the exchange of peltries with the manufactures of Europe. After the capitulation of General Hull, Fort Michillimackinac, the most northerly military post in the United States, fell into the hands of the English, who were obliged to abandon it after the capture of their fleet on Lake Erie.

Lake Michigan, formerly known by the names of Lake Illinois and Lake Dauphin, extends from

* Bellin, p. 67.

the western angle of Lake Huron, in a southerly direction, and is separated from Lake Superior by a tongue of land about thirty leagues in length. It lies wholly within the limits of the United States, between 42° and 46° of north latitude. Its length, from north to south, is 260 miles ; its circumference 945, containing an area of 10,368,000 acres. Its waters, which flow into Lake Huron, are said to be unfathomable. On the north-west side there is a narrow strait, or passage, which leads into two bays : the most northerly is called *Noquets' Bay*, the other *Green Bay*, or Puants, the name of the Indian tribe which lives on its borders. The latter, from twenty-five to thirty leagues in depth, communicates with Lake Winnebago, situated at the distance of thirty miles, in a southern direction. These waters form a peninsula, called Cape Townsend, or Vermillion Point. On the north-east side there is another bay, of considerable length, which receives Traverse River from the east. Into this, and in a western direction, flow the Grand Masticon, Marianne, St Joseph, and other streams, with an outlet from 150 to 250 yards in breadth each. Chicago River, an arm of the lake, at the distance of a mile inland, divides itself into two branches ; the northern extending along the western side of the lake about thirty miles, the southern five or six. The main channel and branches have sufficient depth of water for

vessels of any burden ; but a sand bar at the mouth obstructs their entrance, and does not admit of larger boats than those which draw about two feet water.* Near the entrance of the lake, on the eastern and north-eastern side, are *Manitou* and *Beaver* Islands. The soil of the banks is sandy, thinly covered with pine, cedar, and shrub oak. This lake and the strait with which it communicates abound with excellent fish, the chief food of the Pottawatamie Indians, who live near those waters. Trout are there frequently found to weigh from sixty to ninety pounds. Lake Michigan is navigable for vessels of 400 tons, and the south-east coast of Green Bay affords a fine harbour. Fox River, which runs into the southern extremity of this bay, through the Winnebago Lake, is boatable to within three miles of the Ouisconsin River, which flows into the Mississippi. The Illinois River, whose head branches approach near to the southern extremity of this lake, affords another channel of communication with the Gulf of Mexico. *Forts.*—Near the southern extremity of Lake Michigan is Chicago, or Fort Dearborn, the whole garrison of which, during the late war, was put to the sword by the Indians. Twenty leagues from the mouth of the river St Joseph, was formerly es-

* Letter from L. H. Long, &c.

established the French fort and mission of St Joseph, at the Indian village of Pottawatamis. Thence, to the sources of the Theakiki, the distance was but some few leagues, and by this river, or the Chicago, there was an easy route to the Illinois branch of the Mississippi.

Lake Erie, the fourth lake in extent, connected with Lake Huron by the river Detroit, is situated between the $41\frac{1}{2}^{\circ}$ and 43° of north latitude, and between $78^{\circ} 48'$ and 83° west longitude, from London. It is of an oval form, 230 miles in length, from fifty to sixty in breadth, and 610 in circumference. Its depth is from forty to three hundred feet. At Detroit, there are eighteen fathoms water. It is navigated by vessels of sixty or seventy tons, which bring goods and provisions to the head of Lake Superior, and carry back furs and peltry. In Lake St Clair the water is so shallow, that the vessels must be lightened. The northern shore consists of high craggy cliffs, which project a great distance into the water, and endanger the passage of vessels. Of this description is Long Point, a strip of land of about five miles in breadth, which runs out several miles towards the south-east. Another point, named Albino, which projects into Long Point Bay, affords a good anchorage and shelter for vessels; and between this and Grand River, there is a high conical hill, which serves as a good land-mark. San-

dusky Bay, situated at the southernmost extremity, affords a good harbour, but the entrance is difficult. That of the peninsula, or Presqu'isle, on the south-east side, is spacious and well sheltered, with good anchorage ; but a sand bar, extending across its mouth, prevents the entrance of vessels drawing more than four feet water. The harbour of Put-in-bay, situated in an island, a few miles from the western side of the southern shore, afforded shelter and protection to the American fleet during the late war. The river Niagara, from its mouth to Queenstown, a distance of seven miles, affords an excellent harbour for vessels of considerable burden. Near the middle of this lake, the waters are never frozen ; but the ice, which forms on its borders at the approach of winter, impedes the navigation, especially when the wind changes from south to north, or in a contrary direction. In the former case, immense masses of ice are driven across the lake, and accumulated on the Canadian shore ; in the latter, on that of the United States. The waters of this lake, like those of the Lake Superior, are subject to a considerable elevation and depression during the prevalence of strong winds, particularly in Presqu'isle Bay. When the wind is from the north or west, the mouths of the rivers on the southern shore, where the usual depth of water is from six to seven feet, are so choaked with sand, as to become ford-

able, until it be carried off by the current of the river. It has been observed by Mr Ellicot, that fogs are seldom seen, during summer, on the margin of the lake,—that the horizon is generally clear,—that the stars shine with uncommon lustre. This astronomer also felt a regular breeze blowing towards the land during the greater part of the day, and in a contrary direction during the night, resembling the sea and land breezes of the West Indies. *Islands.*—The principal islands are twelve in number, as follows: 1. *Basses Islands* form a groupe at the end of the lake. 2. *Isle Bois Blanc*, opposite the English military post of Amherstburgh, which commands the east channel of Detroit River. 3. *Isle Celeron*, at the entrance of the Detroit River. 4. *Cunningham Island*, southwest of the Basses Islands. 5. *East Sister*, the easternmost of three islands, called the Sisters, lies to the north of the Basses Islands. 6. *Grosse Island*. 7. *Middle Island*, east of the Basses Islands, and north of Cunningham's Island. 8. *Middle Sister*, at the west end of the lake, between the East and West Sister. 9. *St George's Island*, at the west end, one of the Basses Islands. 10. *Ship Island*, between the Basses and Cunningham's Island. 11. *Turtle Island*, at the entrance of the Miami Bay. 12. *West Sister*.* Some of

* See Faden.

the islands near the western extremity, now peopling, have an extent from 1000 to 2000 acres, and are said to be fertile and salubrious. *Rivers.*—The channel of communication between this and Ontario Lake is called the river *Niagara*, which is thirty-six miles in length, and three-quarters of a mile in breadth. This stream runs at the rate of four miles an hour, and forms the great cataract, *the Falls of Niagara*, one of the most magnificent spectacles in nature. The whole mass of waters, accumulating during an extent of nearly 2000 miles, falls over a rock (called the Table Rock) to the depth of 150 feet, producing a sound which is sometimes heard at the distance of thirty or forty miles. The descent from Lake Erie to Lake Ontario has been estimated at 450 feet. The level of the former is elevated 280 feet above the Hudson River at Albany, and the intervening country is mostly level,—circumstances which are very favourable to the formation of the canal lately commenced for forming a communication between these waters. *Grand River*, which enters on the northern side, twenty-four miles west of Point Albino, has its entrance covered by a rocky island. On the south-west and south shores are the *Miami* of the lakes, *Sandusky River*, *Huron*, *Black River*, *Rocky River*, *Vermillion* and *Cayahoga Rivers*. The last could be rendered navigable to the distance of fifty miles, and within seven or eight of

the Tuscarawa River. Rocky River is navigable to the distance of twenty-five miles ; and Vermilion and Huron some miles from their outlet. The St Mary's and St Joseph's, branches of the Miami, are rivers of considerable size and extent. When the waters rise, the former is navigable for small boats to Fort St Mary, 150 miles by the course of the river, from its confluence with the latter. Its branches approach those of the Wabash and Big Miami. The St Joseph is navigable about fifty miles ; and its branches form a communication with the St Joseph of Michigan Lake, the Kankakee, and the Wabash.* The fishes which inhabit these waters are the pike, sturgeon, cat-fish, *muscolinga*, the white, rock, and black bass ; eel, trout, and pickerel. The cat-fish weighs from twenty to forty pounds ; the bass from one to three pounds. Schultz, in his Travels, states, that, with a hook and line, he caught 100 pounds of fish in the space of two hours, at the outlet of Buffalo Creek. *Forts.*—On the west bank of the Niagara River, near the eastern extremity of the lake, there is a strong fortification called *Fort Erie*, situated in $42^{\circ} 53'$ of north latitude. On a point of land, at the outlet of Niagara River, there is the fort of the same name, si-

* Letter from L. H. Long, Major of Topographical Engineers, inserted in the National Register for March 1817.

tuated in north latitude $43^{\circ} 15'$, and $78^{\circ} 25'$ west longitude, from London. On the river Miami of the lakes are three American forts : Fort Meigs, Fort Defiance, and Fort Wayne. The French fort of Miami, established by the orders of DeLassalle, was situated on the Miami River, at the distance of thirty leagues from its mouth. On the Bay of Sandusky there was another French fort and habitation.

Lake Ontario, formerly called *Frontenac*, and also St Louis, which is of an oval form, is situated between 43° and 44° of north latitude. It is 160 miles in length, from 60 to 70 in its greatest breadth, and its circumference in following the shores is 450. *Bays*.—On the south side is a fine bay, extending six or seven miles from north to south, and from two to four in an opposite direction, where vessels find a complete shelter and anchorage in twenty-five fathoms water. The bay of *Quinté*, which is 50 miles in length, forms an excellent harbour for the small vessels employed on the Lake. The harbour of York, in $43^{\circ} 35'$ north latitude, is large enough to contain a considerable fleet ; and vessels ride in safety at its entrance, even during the winter. From the experiments of Mr Schultz, it is ascertained, that the water of this lake, in the middle of summer, at the depth of forty fathoms, is fifteen degrees colder than near the surface, where the thermometer

indicated 68° of temperature. In the bay of Quinté, a rising and sinking of the water has been frequently observed, as in the upper lakes. The islands of Lake Ontario are nineteen in number.

1. *Amherst* Island, formerly *Isle Tonté*, in front of Kingston, towards the entrance of the bay of Quinté, contains 16,000 acres.
2. *Isle de la Barque* lies off Ameliasburgh.
3. *Carleton* Island, between Grand Island and the south shore.
4. *Isle du Petit Cataraque*, opposite the township of Kingston.
5. *Cedar* Island, off the mouth of Hamilton Cove.
6. *Howe* Island, formerly *Isle Cauchois*.
7. *Isle au Cochon*, between Kingston, Gage, and Wolfe Island.
8. *Isle du Chene*, close to the land in a deep bay, between Point Traverse and Point Pleasant.
9. *Duck* Islands, off Point Traverse.
10. *Isle La Force*, or *La Forté*, off the south-west point of *Isle Tonté*.
11. *Gage* Island, off Kingston.
12. *Grand* isle, or *Wolfe* Island, where the lake falls into the St Lawrence.
13. *Gull* Island, the southernmost of the Duck islands.
14. *Orphan* Island, in a deep bay between Point Traverse and Point Pleasant.
15. *Isle de Quinté*, or *Nicholas* Island, lies off Ameliasburgh.
16. *Petite Isle Conté*, off the easterly extremity of Amherst.
17. *Isle aux Tourtes*, lies off the south-west point of Wolfe Island.
18. *Wolfe* Island, in the narrow passage of Lake Ontario, towards the St Lawrence.
19. *Wapoose* Island, off

the northerly point of Prince Edward's Bay. Almost all the original French names have been changed by the English geographers. On the southern side of the entrance of the river, was the isle of *Chevreuil*, (six leagues from Fort Frontenac,) a league in length from east to west, two leagues farther the *Isles aux Galots*. These islands are generally fertile, and well timbered. Some of those in Sodus Bay have an extent of fifty acres, and produce vegetables in great abundance. Onions raised there have been found to measure fifteen inches in circumference.* The rivers which enter on the southern or American side are the *Genessee*, the *Seneca*, and *Black rivers*. By the Seneca, Onondago, or Oswego, there is a communication with the Mohawk branch of the Hudson River, through the Oneida Lake and Wood Creek. From Lake Ontario issues the great river St Lawrence, which, after a course of 600 miles, discharges the waters of all the great lakes into the Atlantic Ocean, through the gulf of its own name, between the 49th and 50th degree of latitude. The English have opened a military road from York, the seat of government of Upper Canada, on the north-western side of Lake Ontario, to Gloucester, on Lake Huron, by the

* Description of the Genessee Country, by Captain Williamson.

way of Lake Simcoe, for the transportation of the furs of the North West Company, which were formerly sent by Lake Erie along the American frontier. This river was known to the French shortly after their entry into the river St Lawrence, in 1535. The Count de Frontenac built a fort at its outlet in 1671. In 1727, the English built Fort Oswego, at the mouth of the river of this name, formerly called *Chouaguen*. At the confluence of the Niagara river, De la Salle, in 1678, traced the plan of a fort and magazines, and left De Tonty with thirty men to execute this work ; from whom the other rivers received the names of Des Sables, De la Planche, La Grande Famine, * La Petite Famine, and the Grosse Ecorce.

SMALLER LAKES.—*Lake Champlain*† is situated to the east of Lake Ontario, between the states of New York and Vermont. Its length from north to south, from Whitehall, formerly Skeenesborough, in the State of New York, to Fort St John's, in Lower Canada, is 160 miles. Its breadth from east to west is very unequal, being from one to eighteen miles. Near the close of

* This river was so named by Mr de la Barre, Governor-General of New France, who, in the year 1684, lost nearly the whole of his army by hunger and sickness in fighting against the Iroquois Indians.

† The name of the person, Sir Samuel Champlain, by whom it was discovered, in 1608.

April, the waters swell sometimes to the height of eight feet, and subside near the end of June. The whole surface is generally frozen from the middle of January till the middle of April; and when the thaw takes place, the dissolution of the ice is so rapid, that several square miles have been seen to disappear in the course of a day. It contains several islands, three of which are within the jurisdiction of the State of Vermont, viz. the North and South Heroe Islands, and the island Lamotte. This lake abounds in fish, sturgeon, pickerel, salmon, and salmon-trout. It receives the waters of several navigable streams, the Missisqui, La Moile, and Onion, from the west side of the Green Mountains, and discharges itself by the *Sorelle* or *Richelieu* * river, which, running north about twenty leagues, joins the St Lawrence. At its mouth formerly stood Fort de Richelieu, built in 1642. Five or six leagues higher up was another fort, called Assumption, and afterwards St Louis, instead of which Fort de Chambly was subsequently built, and, on the opposite bank, Fort St Therese. This lake, celebrated by the late naval victory, which decided the fate of the war in this quarter, forms a natural barrier between Canada and the New England states, and particularly that of New York.

* These names were given when Canada belonged to France.

During the revolutionary war, the southern entrance was defended by the forts Crownpoint and Ticonderago, the former an ancient French fortress. Fort St Frederick stands on a point of land, called by the French *Pointe de la Chevelure*, and by the English, Crownpoint; a rocky situation, commanding the passage of the lake. The other extremity was defended by Fort St John, which was taken by the American army in the year 1776, after a siege of forty days. A ship called the Washington, of sixteen guns, was captured on this lake from the American army under the command of General Arnold. The English had then a ship of twenty-two guns, and another of eighteen, with some small craft, which lay at St John's, twenty-eight miles from the southern limits of the British territory. In 1785, the expence of a canal to admit ships of 200 tons to pass from the river St Lawrence into Lake Champlain, was estimated by Captain Twist, the engineer by whom the survey and level were made, at L.27,000 Sterling.

Lake George, originally called Lake Sacrament, *Lac du Saint Sacrament*, on account of the use of its pure and limpid waters in the churches of Canada, is thirty-six miles in length, and from one to seven in breadth. Its surface is 100 feet higher than that of Lake Champlain, and its waters rush into the latter through a natural

channel of communication, at the ruins of the fort of Ticonderago. The portage between the two lakes is but a mile and a half ; and a boat communication, by means of locks and canals, might be opened at no great expence. On each side of the lake there is a high ridge of land, clad chiefly with red cedar, a wood of great value for different purposes, particularly for the construction of vessels, and the manufacture of lead pencils. The islands of Lake George are said to equal in number the days of the year ; but they are very barren, producing scarcely any other vegetable than heath, with some thinly scattered clumps of spruce and hemlock. At the *Isle aux Noix*, which commands the channel, was formerly stationed an English garrison, and a brig mounting eight carriage guns, for the regulation of the trade between Canada and the United States. *Diamond* Island was formerly so infested with rattle-snakes, that some boatmen whose *batteaux* had overset, having gained this shore, were obliged to pass the night in the branches of trees, to avoid the bite of this venomous animal. The next day a boat afforded them the means of escape ; and some hogs which had also swam ashore, devoured, and fattened on this favourite food, to the advantage of the owners by whom they were afterwards claimed.

Lake Mumphremagog, forty miles in length, and three in breadth, discharges itself into the river St Lawrence, through the river St Francis and lake

St Peter's. The boundary line, the forty-fifth degree of latitude, crosses it near the southern extremity, leaving but a small portion of its waters within the limits of the United States.

Muddy Lake, between Lake Huron and Lake George, is nearly thirty miles in length, and contains several small islands, of which the principal is St Joseph's.

Oneida Lake, thirty miles in length, and five in breadth, lies to the south-east of Lake Ontario, with which it is connected by the Oswego river. It receives the waters of Fish Creek and Wood Creek. The latter affords a communication with Fort Stanwix. This lake abounds with fish, which supply the wants of the neighbouring inhabitants throughout the year. The salmon, pike, and catfish, weigh from five to thirty-five pounds. The chub, Oswego, and white bass, are from two to five pounds; eels from two to three; and so great is the quantity of the last, that a family living at the outlet of the lake salts forty barrels a year, which are usually sold at the rate of ten dollars a barrel.*

Seneca Lake.—This lake, on which the flourishing town of Geneva is situated, is forty-four miles in length, and from four to six in breadth. Its deep waters do not freeze during the severest cold.

* Schultz's Travels, Vol. I. p. 21.

There is a boat communication between this lake and Schenectady, within fourteen miles of the tide of the river Hudson.

Cayuga Lake is nearly of the same length, and about a mile in breadth ; but its waters are shallow, and freeze in winter. Both this lake and Lake Seneca abound with fish of different kinds, salmon, trout, &c.

*Distances and Courses on Lakes Erie, Huron, and Michigan, from actual Observation.**

Lake Erie.—From Buffalo to Point Abino, 9 miles ; Point Abino to Presqu'isle, 70 ; Presqu'isle to Cayahoga, 75 ; Cayahoga to Middle Island, course W. S. W., 40 ; Middle Island to Bar Point, course N. W., 36 ; Bar Point to Detroit, 23 ; To Fort Malden, 3 ; in all 256 miles. *Lake Huron.*—From Detroit to the St Clair rapids, course generally N., 72 ; St Clair rapids to Point les Barques, course N. $\frac{1}{2}$ W. 80 ; Les Barques to Thunder Bay islands, course N. N. W., 70 ; Thunder Bay to Middle Island, 15 ; Middle Island to Presqu'isle, course N. W., 19 ; Presqu'isle to Bois Blanc island, course W. N. W., 40 ; Bois Blanc island to Mackinack, course W. $\frac{1}{2}$ S. 18 ; in all

* Gazetteer of the Province of Upper Canada, &c. New York, 1813.

314. *Lake Michigan.* From Mackinack to Point Warbarance, a W. course, 25 ; thence to Manitou Island, course S. W. by S., 70 ; thence to Chicago, course S. by W., 205 ; in all 300.

Of the Great Rivers of the United States.—'The rivers of the greatest extent are the Missouri, Mississippi, Ohio, Potomac, James River, the Delaware, York River, Savannah, Hudson and Connecticut ; and there are many others of considerable dimensions, hereafter noticed in the description of the state or territory which they traverse.

THE MISSOURI.—This river, which is the first in point of magnitude, was explored near its outlet by Father Marquet and Joliet, who arrived there by the Ouisconsin and Mississippi rivers in 1673. Soon afterwards French traders ascended to a considerable distance, and formed on its banks several small establishments, one of which, called Fort Orleans, was situated more than sixty leagues from its mouth, in the midst of the Missouri, Osage, and Kansas Indians ; but the upper branches remained unknown till the year 1804, when Lewis and Clarke, in their journey to the Pacific Ocean, penetrated near to its sources in the great chain of rocky mountains, 3096 miles from its confluence with the Mississippi, in latitude $38^{\circ} 55'$. Three streams of nearly equal size, issuing from different parts of this chain, run in a direction nearly southwest and south, to the latitude of $45^{\circ} 24'$, where

their waters unite and form the Missouri. The northern branch is named Jefferson; the western, or middle, Madison; and the southern, Gallatin, in honour of these American statesmen. The course of the river is north-easterly through the mountains, until it arrives at the parallel of $47^{\circ} 3'$, (2575 miles from its mouth,) where its waters are precipitated over rocks, which, in some places, rise to eighty feet of perpendicular elevation. Having descended 384 feet in the course of twelve miles, the river receives the waters of the great southern branch in the parallel of $47^{\circ} 20'$, and longitude 110° from London; it then emerges from the first ridge, and forces its passage through basaltic columns, which, in latitude $46^{\circ} 42'$, are elevated 800 feet above the surface of the water. Thence it has an eastern course as far as the Mandan Villages in latitude 46° , at the distance of 1604 miles from its mouth. Here it takes a southern direction, which it preserves till below the mouth of White River, a distance of 474 miles, from which its general course is south-east, and afterwards east, to its junction with the Mississippi in latitude $38^{\circ} 55'$. In all its course the Missouri is so irregular, that it seldom runs more than forty or fifty miles in the same direction, and some of its sinuosities are very remarkable. In latitude $44^{\circ} 19'$ the distance across the neck of the curve, called *Grand Detour*, or Great Bend, is but 2000 yards, while

the course of the water is nearly thirty miles. * *Width*.—This river is of very unequal width, as will be seen in the following table : Above the basaltic columns from 150 to 250 yards ; at Fort Mandan, in latitude $47^{\circ} 21'$, 500 ; at the mouth of Mussel Shell river, in latitude 47° , 222 ; below the great falls, 300 ; at its passage through the basaltic columns, in latitude $46^{\circ} 42'$, from 100 to 150 ; a few miles above the mouth of the Little Missouri, and also in latitude $40^{\circ} 27'$, 1760 ; at the point of junction with that river, 200 ; at its junction with the Osage river, in latitude $38^{\circ} 31'$, 875 ; at the Arrow Cliff of rocks, and creek of the same name, 200 ; at Blue Water Creek, very narrow. *Velocity*.—The current measured by the log was found to be at the rate of fifty fathoms in forty seconds, or nearly five miles an hour ; and in some places the velocity was much greater. The Missouri is navigable for large boats from its mouth to the great falls, and thence up the Jefferson branch to the parallel of $43^{\circ} 30'$ north, a distance of 248 miles, in all 3096 miles. From the junction of the

* Mr Bradbury, according to the information of the hunters, gives the course of the river in this curve at twenty-one miles only, and the breadth of the neck 1900 yards. It incloses about forty square miles of a level surface, with an excellent soil, which, in June, was covered with fine grass, on which flocks of buffalo were quietly grazing. (p. 177.)

three branches or forks, to the great falls, the water, confined by the mountains, affords a more easy and safe navigation than during the rest of its course, owing to the falling in of its banks, and the vast quantity of sand which is carried into it by its tributary streams. In many places the banks, which are of a loose texture, sink occasionally into its bed in such large masses, as to change the direction of its course. In latitude $40^{\circ} 27'$, where the river is a mile in breadth, a surface of twenty acres had thus sunk down some short time before the arrival of Lewis and Clarke. The trees, carrying with them masses of earth adhering to the banks or to the muddy bottom, arrest the drift wood in its passage, and form numerous islands, which are soon covered by the quick growth of willows and cotton wood. The boats of the exploring party frequently struck against banks of sand, and trunks of trees, which adhered to the mud. They were also endangered by counter currents formed by sinuosities and by excavations in the rocks, which, in many places, overhang the waters. The banks at the junction of several of the rivers are liable to inundation during high water, which renders it difficult to follow the channel. The most dangerous navigation is at the island of the Little Osage Village, where the waters, in a distance of two miles compressed within a very narrow channel, run with increased velocity. From the first of February to

the middle of March, the navigation is impeded by great masses of floating ice, which have been sometimes encountered at a much later period, even in the month of June, and at the distance of 1000 miles from the mouth of the river. The waters begin to swell about the middle of February, and continue to increase till about the 10th of June; but their rise and fall are both irregular, depending on the dissolution of the snow in remote regions. On the 5th of February 1804, the waters rose two feet and a half in twenty-four hours. On the 7th they fell eight inches in the same space of time; on the 9th the rise was two feet; on the 12th they sunk two inches; and thus they sunk and rose alternately; but the greatest subsiding of the waters in the time mentioned did not exceed eight inches, and was seldom more than three or four. From the 1st to the 6th inclusive, the waters rose; they fell on the 7th, and then rose to the 12th, when they sunk during twenty-four hours, and again continued to rise several days in succession, and so on to the end of the month. Mr Bradbury's boat, in 1810, descended to the Great Bend, 280 miles in two days and a half.

Islands in the Missouri.—The Missouri contains a great number of islands, which our limits do not permit us to enumerate. Beyond Medicine river there are no less than eleven in a distance of ten miles and a half. The largest are the *Great*

and *Little Nodaxa* islands, extending five miles in length, and containing from 7000 to 8000 acres of excellent soil, which is seldom overflowed. These islands are separated from the main land by a channel, the mean breadth of which is about sixty-two yards. *Great Cedar* Island, situated above the junction of Chayenne River, is about two miles in length. It derived its name from the cedar with which it is mostly covered. It formerly served as a post, or trading house, to a Frenchman named L'Oiselle. *Little Cedar* Island, 1075 miles from the mouth of the Missouri, is about three-quarters of a mile in length, and 500 yards in width : the middle parts covered with the finest cedar, the outer encircled with clumps of roses, currants, and grape vines, intersected by flowery paths, formed by the buffalo, elk, and antelope. "I have never seen a place," says Mr Bradbury, "however embellished by art, equal to this in beauty." (p. 80.)

Fishes of the Missouri.—The cat-fish is everywhere abundant. It is described to have small eyes, and a tail resembling that of the dolphin. Near the Mandan villages, the largest weigh about six pounds. Above the mouth of the Platte River, its colour is nearly white. Buffalo-fish is also very common. The Maha Creek, near the village of the same name, was twice swept with a drag, made of willow branches and bark : and, the first time, the number caught amounted to 318 ; the second to 800

fish of various kinds,—pike, bass, red horse, buffalo, rock-fish, flat-back, perch, cat-fish, shrimps like those of New Orleans, fat mussels, a fish resembling salmon, and a species of perch, called on the Ohio silver-fish. The soft-shelled turtle was found as far up as the Elk Rapids, but none were seen between that place and the Mandan villages. Above the mouth of Maria's River, two kinds of fish were caught, one of which is thus described : Length nine inches, mouth armed with sharp teeth, of a round form, resembling that of the white chub of the Potomac, though its head be proportionally smaller. It is easily caught by the line, with a bait of flesh meat, or a grasshopper. It is not very delicate. The other species is of the size and form of the hickery shad, or old wife, but different in the shape of the jaws, which are armed with teeth, and bent inwards. At the great falls, white fish were caught, and also a species of trout, resembling the speckled trout of the other American rivers, but the spots are of a reddish or golden colour. Its mouth and palate are armed with long sharp teeth. Beyond the Gates of the Rocky Mountains, in latitude $46^{\circ} 10'$, another species of fish was taken, resembling a shad, with a long pointed mouth, a white belly and sides, and bluish back.

Tributary Streams of the Missouri.—The principal branches enter on the south-west side.
1. The *Keheetsa*, or Yellow Stone River, (which,

on the map of Lewis and Clarke, has no name,) has its source in a lake, named Lake Eustis, situated nearly in the parallel of 41° , and the meridian of 111° , in the same chain of mountains that gives rise to the parent stream, from which also issue the Platte branch, and two other great rivers, the Arkansas and Rio del Norte, thus affording a communication between countries situated at an immense distance from each other. The Keheetsa, in its course, waters the middle portion of these mountains, several hundred miles in extent, from north-west to south-east, after which it traverses a fertile country, in a direction nearly parallel with the Missouri to its confluence with this river, 1880 miles from the Mississippi. Its bed, near its mouth, measured 520 yards; and the channel of deep water, on the 25th of April 1805, was found to be 330 yards. Its banks are from ten to eighteen feet above the mean height of the current, which, though rapid, is navigable for canoes almost to its source. Captain Clarke followed its course 837 miles, and found no other impediment than a ledge of rocks, not difficult to pass. From the mountains to Clarke's Fork, the current runs at the rate of four miles and a half an hour; thence to Bighorn River, three miles and a half; thence to Lazeha, three miles; thence to Wolf Rapid, two and three-quarters; and thence to its entrance, two miles an hour. The principal

branches of the Keheetsa are the Big Horn, Clarke's Fork, and Tongue River. The first, issuing from a lake, named Lake Biddle, situated to the south of Lake Eustis, near the source of the Rio del Norte, runs an immense distance, in a north-eastern direction, to its junction with a stream called the Little Big Horn, after which its course is nearly north, to its junction with the Keheetsa, at Manuel's Fort. For a considerable distance, its waters are from five to seven feet deep, affording an easy navigation for boats. *Clarke's Fork* issues from the mountains to the north-east of Lake Eustis; and, in its course, receives several streams, the most considerable of which is the *Apsasohaa*. Its mouth is 150 yards in width; but, at a small distance therefrom, it is but 100. Its waters are light, and of a muddy colour. *Tongue River* has its origin near that of the *Qui Court*, the former running in a northern, the latter in an eastern direction. *Lebiche River*, which enters forty-eight miles from the Big Horn River, is sixty yards in width. *Shields River*, which runs with a bold and rapid current from the Snowy Mountains, is thirty-five yards in width. The other streams are the Samuel River, York's Dry River, Warharsa River, Big Dry River, Marshaskap River, Little Horn River, Little Wolf River, Rosebud River, Otter, Brattlen, Beaver, and River-Across. The *Platte River*, so named from the Spanish *La Plata*, rises

near the sources of the Big Horn and Rio del Norte, and runs an easterly course of nearly 2000 miles to its junction with the Missouri, in latitude $41^{\circ} 3'$, at the distance of 600 miles from the mouth of this river. It is about 600 yards wide at its mouth ; but its channel is generally shallow, full of islands and quicksands, which render it almost unnavigable. Mr Bradbury states, that, opposite the Otto village, it is very shallow, though 800 yards in breadth ; that it discharges its waters by three channels, except in the time of its annual flood, when the intervening land is overflowed ; it is then about a mile in breadth. (P. 48, 54.) The principal branches, which unite near its outlet, are the Elk Horn, (*Corne du Cerf* River,) the Wolf River, and the Padoncas Fork. The first, a fine stream about eighty yards wide, is navigable 400 miles ; the second (which rises in a lake) 600 miles. The *Chayenne* River, or Sharka, issues from two sources, near the 44th parallel of latitude, and 105th degree of longitude from London, between the upper parts of the White and Tongue rivers ; and, after the junction of its branches, runs nearly a westerly course to the Missouri, with which it unites opposite to the old Ricara villages. According to the information of Indian traders, it is a fine stream, navigable to the distance of 800 miles. The outlet, which is 400 yards in breadth, indicates a river of considerable

magnitude. Mr Bradbury, who had a view of this river from a point two or three miles above its junction, remarks, “ that its banks are more steep “ than those of the Missouri, and are clothed with “ trees to the water’s edge.” *Grand Osage River*, which enters the Missouri, on the south-west side, 133 miles from its mouth, in latitude $38^{\circ} 31'$, traverses a rich, fertile, and well wooded country, abounding with game. It is described by Lieutenant Wilkinson as a pellucid tranquil stream, with the exception of some ripples, and a fall of about six feet in two-thirds of a mile, called the *Old Man’s Rapid*. The banks are formed of craggy cliffs, from which issue numerous springs. This river contains great plenty of soft-shelled turtle. The river *Kansas*, which derives its name from the nation of Indians that inhabits its banks, rises in the plains between the Arkansas and Platte rivers, and pursues an easterly course to its junction with the Missouri, in latitude $38^{\circ} 31'$, at the distance of 340 miles from its junction with the Mississippi. The Kansas, 340 yards wide at its mouth, and increasing in size at the distance of some few miles therefrom, is said to be navigable more than 300 leagues. The south-east branch, according to Major Pike, is from twenty-five to thirty yards in width, and is navigable during the season of floods. The Republican Fork, Solomon’s Fork, Smoky Hill Fork, and Grand Saline, are each navigable

from 150 to 300 miles. Its banks, near its outlet, are subject to inundation to a considerable extent. *Grand River*, which enters the Missouri about 250 miles from its mouth, runs nearly parallel with, and not far distant from it, across an immense tract of country, and is said to be navigable 600 miles. Near its mouth, which is ninety yards in width, sand bars were discovered, and the banks on the north side were seen to fall in. Below its junction, the navigation of the Missouri, owing to the same circumstance, is also difficult. Formerly, when the traders of the Missouri were prevented by the Kansas Indians from ascending this river to the country of the Mahas, 800 miles distant, they continued their commerce by the channel of the Grand River. *White River* issues from several small lakes, of which the most westerly is in the 105th meridian of longitude, and runs in an eastern direction to its confluence with the Missouri, below the Grand Detour, or Great Bend, of this river. At its junction, it is 300 yards in width, and it is navigable to the distance of 600 miles. *Qui Court** River rises in the Black Mountains, near the sources of Tongue River, and follows a course south-east by east, nearly parallel with the Platte, through a hilly country. Its confluence, which is about 1000 miles from the Mis-

* On Melish's Map called *Quicoarre*.

Mississippi, is 150 yards in breadth, but its current is too rapid for navigation. The *Little Missouri* River rises to the west of the Black Mountains, and passes near the north-west side of the Turtle Hills in its course to the Missouri, with which it unites on the south-west side, 1690 miles from the confluence of this river with the Mississippi. It is 134 yards in width near its mouth, and though in many parts there are from six to seven feet water, it is not navigable. *Great Sioux* River rises in an elevated and well wooded country, called "Mountain of the Prairie," near the head waters of the St Peter's River of the Mississippi, and runs in a southern direction, till it arrives near, and almost opposite to, the Grand Detour of the Missouri, where it takes an easterly direction; after which, it receives three streams from the north-east—the Prickly Pear River, the River of the Rock, and the Red Pipe Stone River; and taking a southeasterly course, joins the Missouri, where its waters are 110 yards in breadth. According to the report of Indian traders, and of Durion, interpreter to Lewis and Clarke, it is navigable more than 200 miles, to certain rocks or falls. *James* or *Yankton* River rises in an elevated country, above the head waters of the St Peter's of the Mississippi, nearly in the same latitude * with the

* On Melish's Map below the 47th degree of latitude.

old Mandan villages, and runs a southerly course, nearly parallel with the Missouri, which it enters almost at right angles, the latter assuming an eastern direction above the place of junction. The Yankton is ninety yards in width at its confluence with the Missouri, and is navigable to the distance of 300 miles.

Having thus described the great tributary streams of the Missouri, we come now to those which are less considerable ; some of which, however, in point of magnitude, are equal to the most celebrated rivers of Europe. *Bonhomme*, or Goodman's River, is a considerable stream, which enters on the southern side. *Osage Woman* River enters on the northern side, and is thirty yards wide at its junction. On its banks there is a settlement of thirty or forty farmers, emigrants from different parts of the United States ; and, a little beyond this place, there is a creek, called *Charette*, which, in 1804, marked the limits of the American white settlements on the Missouri. *Gasconade* River traverses a hilly country, of 150 miles extent, and runs into the Missouri on the south-west side, 100 miles from the Mississippi. Its mouth is 157 yards * in breadth, the depth of the channel nineteen feet, and it is navigable to the distance of

* According to Pike it is 200 yards.

100 miles. *Big Muddy River* and *Bear Creek*, which enter near the *Osage River*, are considerable streams; the former being fifty, the latter twenty-five yards in width. Their banks are fertile and well wooded. *Saline* or *Salt River*, so called on account of its brackish waters, is a rapid stream, with an outlet of thirty yards in width. *Good Woman's River*, which enters on the north-east side, 191 miles from the *Mississippi*, is thirty-five yards wide at its mouth, and is navigable thence to the distance of several leagues. *Mine River* enters on the south-west side, at the distance of nine miles from the former, traverses a rich country, and is boatable eighty or ninety miles from its mouth, which is seventy yards in breadth. At the distance of five or six leagues from the *Missouri*, it divides itself into two branches; and between these are rich salt springs, which render the waters of the western branch unfit for domestic use. *Charaton Rivers*. The two rivers which bear this name enter the *Missouri* on the north-east side, near each other, at the distance of 220 miles from the *Mississippi*, and are navigable for boats, the one to the distance of fifty, the other of 100 miles. The largest is thirty, the other seventy, yards wide at the point of junction; and they pass through a rich, broken, and well wooded country, from their source near some of the branches of the *River de Moins*. The *Little*

Shallow River, or *Petite Rivière Platte*, which enters on the north-east side, 349 miles from the Mississippi, is sixty yards wide near its mouth, and is navigable to the distance of forty miles. The surface extending between this country and the Missouri is sometimes overflowed by their waters, which never takes place towards the south. *Blue Water River* enters on the south-western side, 331 miles from the Mississippi. Its mouth is thirty yards in width. *Nodawah River* enters on the north-east side, where its channel is contracted by the mud of the Missouri, above which the width is seventy yards, and it is said to be navigable to the distance of as many miles. *Wolf River* is sixty yards wide at its entrance on the south-west side, 464 miles from the Mississippi, and is navigable for boats towards its source, which is near that of the Kansas. The *Great Nemahah* enters on the south-west side, under the parallel of $39^{\circ} 55'$ north latitude, 480 miles from the Mississippi. It is eighty yards in width at its confluence ; and its banks, to a considerable distance, consist of free-stone. *Neshnabatonah River* runs a considerable distance nearly parallel with the Missouri, through a country abounding with forest-wood, oak, walnut, and mulberry, and joins this river on the north-east side, 508 miles from the Mississippi. At its confluence it is fifty yards in width. *Little Nemahah River* has its junction on the south-west

side, eight miles above the former, where its greatest width is forty-eight yards. *Bowyer's River*, which enters on the north-east side, twelve miles from the establishment called "Council Bluffs," is twenty-five yards at its mouth. *Soldier's River* falls in on the same side as the former, at the distance of fifty-one miles, and its width is nearly double. *Little Sioux River*, or *Eanah Waudepon*, issues from two lakes; the one five, the other two, miles from the most remote branch of the *River de Moins*, and pursues a circuitous course to the *Missouri*, with which it unites in latitude $41^{\circ} 42'$, where it measures about eighty yards. *Floyd's River* enters on the north-east side, a little below the mouth of the *Sioux River*, 850 miles from the *Mississippi*, where its breadth is thirty-five yards. *White Stone River*, thirty yards in width, enters on the north-east side, 918 miles from the *Mississippi*. *Poncarar River* enters on the south-west side, ten miles above the *Qui Court*, and runs from the west, in a parallel direction with the *Missouri*, almost to the point of junction, 1010 miles from the *Mississippi*. To some distance from its mouth, it is thirty yards in width. The three rivers of the *Sioux-Pass* are considerable streams, which enter near to each other on the north-east side, below the *Grand Detour*. They have their source near the banks of the *Yangton River*, each

being about thirty-five yards in width. *Tylor's* River, * thirty-five yards in breadth at its mouth, enters on the south-west side, six miles from the upper part of the Big Bend. *Teton* River has its origin between the lakes from which issue the White River and the southern branch of the Chayenne; at its junction it is thirty-five yards in width. *Sarwarkarna*, or Pork River, rises in the first range of Black Mountains, and runs a north-easterly course to the Missouri, into which it falls on the south-west side, 1397 miles from the Mississippi. On the 7th of October, the water measured but twenty yards from edge to edge, but is four times greater during the swell of the river. *Wetarhoo* River, of which the outlet is in $45^{\circ} 39'$, rises in the same range of mountains, and enters twenty-five miles above the former river, where it is 120 yards in width. *Maripa* River runs north, and afterwards south, to its entrance, near the mouth of the *Wetarhoo*. *Wareconne* River takes its rise in a point to the south of the source of the Yankton, and enters on the north-east side, above the Ricara villages. At its mouth it is thirty-five yards in breadth.

Cannon-ball River rises between the branches of the *Wetarhoo* and the Little Missouri, and is a

* On the Map of Lewis and Clarke it is named Turkey River.

very considerable stream, being 140 yards in width at its entrance on the south-west side, 1500 miles from the Mississippi. It derives its name from the round sand-stones of a brown colour, from one to twelve inches in diameter, which form its bed. Mr Bradbury crossed it on horseback at some distance from its mouth, and without swimming, on the 20th of June, when the stream was muddy. It runs through a beautiful valley, and the alluvial soil is extensive on each side for about a mile. *Chessehetar*, or Heart River, rises near Knife River, and runs in a north-easterly direction to its junction near the six old Mandon villages, 1540 miles from the Mississippi. Near its outlet it is thirty-eight feet in width. *Shepherd* River, which traverses the country in a north-west direction, enters below the former on the north-east side. *Knife* River runs in a northern direction from its source near that of the Cannon-ball River, and after receiving several streams which issue from the Turtle hills, it directs its course to the Missouri, near which its width is eighty yards. At the confluence of this river, which is 1606 miles from the Mississippi, are situated the two Minetaree, or Grosses Ventres, and Maha villages. Mr Bradbury crossed this river opposite the third village of the former, seven miles from the Fort of the Missouri Fur Company, in canoes of skin, rowed by Indian women, or Squaws. It is here about

eighty yards wide ; has the appearance of being deep, but is not rapid. *Miry River*, ten miles in width, enters on the north-east side, twenty-seven miles above the former. *White Earth River*, which has its source far to the north-west, in the country of the Assiniboin, passes through a beautiful and fertile valley before its junction with the Missouri, 1840 miles from the Mississippi. Its waters are clearer than those of the former. The channel is deep and navigable ; and though but ten yards wide at its outlet, at a short distance upwards, it increases to sixty. *Martha's River* also comes from the north-west, watering an extensive, fertile, and beautiful valley. Its entrance is sixty miles beyond that of the Yellow Stone River, 1940 miles from the mouth of the Missouri. On the 1st of May the breadth of the water, from edge to edge, was but fifteen yards ; during the high floods it increased to fifty. This stream has a brown yellowish tint. On their return from the Pacific Ocean, Lewis and Clarke ascertained, that, on the 5th of August 1806, the mouth of this river was a quarter of a mile lower than in the preceding year. *Porcupine River*, so named on account of the great number of those animals seen on its banks, comes also from the north-west, and from a source so remote, that it probably has some communication with the Athabasky country by the river Saskashawan. It enters fifty miles above

Martha's River. Its waters, at their greatest height, measure 112 yards from edge to edge. On the 1st of May the breadth was but forty. The *Little Dry* River and *Big Dry* River enter on the south-west side, in a northern direction from their source, the former being 200 yards in breadth, the latter 400. *Milk River*. The northern branch of this river rises near the limits of Louisiana; the other branch at a considerable distance to the north-west; and they unite their waters not far from the Missouri, where they form a stream 150 yards in breadth. *Gibson's* River, which enters on the north-east side, is thirty-five yards in breadth. *Bratton's* River is a very considerable stream, which comes from the north-west country, and unites with the Missouri 2213 miles from the Mississippi. Near its mouth the Bratton is 100 yards in breadth. *Mussel Shell* River rises near the Rocky Mountains, and runs a north-easterly course to the Missouri, with which it unites 2270 miles from the Mississippi. It is 110 yards in width. Before its junction it receives a considerable stream, the *Sakajaurea*. *Judith* River, which also flows from a ridge of the Rocky Mountains, has a bed of 100 yards in breadth; that of the water, near the close of May, was seventy-five yards. *Big Horn* and *Slaughter* River enter on the north-east side near the *Natural Walls*. The latter is forty yards in width. *Maria's* River, 160 yards in

width, rises in high mountains to the north-west, and receives, in its winding course, several streams, of which the most considerable is Tansey River, that joins it near its confluence with the Missouri, 2521 miles from the Mississippi. The country is fertile between this and Milk River. *Snow* River enters on the south-west side, nineteen miles above Maria's River, and is fifty yards in width. *Shield's* River, thirty-five yards in width, enters twenty-eight miles above the confluence of the former. *Portage* River enters five miles below the Great Falls, from the south-west, seven miles above Shield's River, and 2575 miles from the Mississippi. *Medicine* River issues from the Quamash Flats, and joins the Missouri above the falls, where it is 137 yards in width. Its waters never overflow its banks. *Smith's* River runs a considerable distance along a ridge of the Rocky Mountains, and enters on the south-west side, where the Missouri forms a remarkable curve. *Dearborn's* River runs along another extensive ridge of mountains in a north-west direction, and unites with the Missouri above the Rapids, where it is eighty yards in breadth, and nearly equal to the latter; but in the dry season, in the month of July, the waters sink to one-third of the extent of its bed. The Three Forks, the *Jefferson*, *Gallatin*, and *Madison* Rivers, are fine navigable streams, having smooth beds of pebble and gravel. The first admits canoes

to the distance of ninety-six miles ; the second to eighty, and the third to sixty miles. The Gallatin branch furnishes an easy communication with the Yellow Stone River.

A very brief notice will suffice for the third class of tributary branches of the Missouri, described under the name of *Creeks* by the American travellers. *Charette* creek, sixty miles from the mouth of the Missouri, is twenty yards in width. *Shepherd's* creek, which enters eighty-three miles from the Mississippi, is a considerable stream. *Marrow* creek, whose junction is 138 miles from the Mississippi, is twenty yards across. *Cedar* creek, which enters 145 miles from the Mississippi, is twenty yards in breadth. *Manitou* creek, at the distance of 162 miles, is about the same size. *Split Rock* creek, at the distance of 170 miles from the mouth of the Missouri, is twenty yards in width. *Snake* creek, 276 miles from the mouth of the Missouri, is twenty-five yards in breadth. The three creeks known by the names of *Hubert*, *Fire Prairie*, and *Hay Cabin*, are considerable streams ; the last is twenty yards in width. *Independence* creek. *Tarkio* creek, twenty-three yards in width, enters 483 miles from the mouth of the Missouri. *Weeping Water* creek, twenty-five yards in width, has its junction at the distance of 568 miles from the Mississippi. *Butterfly* creek is eighteen miles in width. *Musquitoe* creek, seven

miles above the former, is twenty-two yards across. *Waucarde*, or Bad Spirit creek. *Plum* creek, 986 miles from the mouth of the Missouri, is twelve yards in width. *White Point* creek, eight miles above the former, is twenty-eight yards in width. *Stone Idol* creek, above the Ricara villages, is eighteen yards in width. *Wild Onion* creek, above the Little Missouri river, is sixteen yards in width. *Chaboneaux* creek is twenty yards across. *Goat Pen* creek. *Hall's* creek. *Little Dry* creek, forty miles above Porcupine river, is twenty-five yards in width. *Big Dry* creek, nine miles higher, is 100 yards in width. *Pine* creek, beyond Big Dry river, is twenty yards across. *Brown Bear Defeated* creek, near Bratton's river, is forty yards in width. *Wiser's* creek, forty yards in width. *Grouse* creek, twenty yards. *North Mountain*, *South Mountain*, and *Windsors*, each thirty yards in width. *Thompson's* creek, twenty-eight yards in width. *Stone Wall* creek, above the natural walls, thirty yards.

The following interesting Table of the extent of the navigable waters of the Missouri country was politely communicated to me by Will. C. Preston, Esq. of Virginia :

Missouri, 3096 miles ; Gasconade, 200 ; Great Osage, 600 ; Mine River, 50 ; Chariton, 30 ; Grand River, 600 ; De Bért's River, 30 ; Blue

Water, 50 ; Kansas, 1200 ; Nodawa, 100 ; Nemaha, 40 ; Platte and its tributaries, 2000 ; Little Sioux, 60 ; Floyd's, 40 ; Big Sioux, 200 ; Jacque, 300 ; White River, 600 ; Teton, 100 ; Chien, 1000 ; Wetarhoo, 80 ; Cannon-ball, 150 ; Knife, 50 ; Little Missouri, 200 ; White Earth, 60 ; Yellow Stone, 1200 ; Tributaries, 1500 ; Porcupine, 50 ; Milk, 100 ; Mussel Shell, 100 ; Big Horn, 60 ; Maria, 200 ; Tributaries, 500 ; Tributaries of the Osage, 600 ; of the Kansas, 100. In all 15,340 miles. The rivers are enumerated as they occur in ascending the Missouri, and descending the Mississippi.

The Mississippi and its tributaries above the mouth of the Missouri : Mississippi, 1600 ; Pike River, 120 ; Des Corbeaux, 300 ; St Peter's, 1000 ; Turkey, 80 ; St Croix, 240 ; Black River, 180 ; Chippawa, 180 ; Upper Jowa, 60 ; Ouisconsin, 360 ; Lower Jowa, 70 ; Rock River, 500 ; De Moines, 800 ; Salt River, 70 ; Cuivre, (copper,) 150 ; Illinois and Tributaries, 3000. In all 8510.

There is between the Illinois and Lake Michigan, in dry seasons, a portage of 3 miles ; between the Illinois and Wabash, of 15 ; between De Moines, a tributary of the Mississippi, and the Missouri, 700 miles above its mouth, a portage of 6 miles ; between the Ouisconsin and Fox, of $1\frac{1}{2}$; between St Croix and Lake Superior, 15 ; between

St Peter's and Red River, $1\frac{1}{2}$; between Corbeaux and Red River, 3.

In a note accompanying this communication, Mr Preston informs me, that these facts were furnished by General Clarke, and other travellers of respectability. He adds, " In this copy I have
 " omitted several streams not navigable more than
 " fifty miles, and one or two of the less important
 " portages. There is perhaps no one fact which
 " indicates so strongly the future opulence and
 " consequence of that part of the United States,
 " as that, independent of an easy communication
 " with the lakes, there is above the mouth of Mis-
 " souri (itself 1500 miles from the sea) a naviga-
 " tion of more than 23,000 miles. This is a cu-
 " rious fact, of the accuracy of which, as far as ac-
 " curacy upon this subject is at present attainable,
 " I have no doubt."

The MISSISSIPPI, * or Mother of the waters. — This river has its origin in several little lakes situated in the most elevated parts of the north-eastern continent, which separates its waters from

* This river was called, at the time of its discovery, the river *Colbert*, in honour of the French minister of that name ; afterwards the *St Louis* ; but the Indian name prevailed. It was known to the Spaniards by the name of *La Palissada*, on account of the great quantity of wood which floated down its current after the annual swell.

those that run into Lake Winnipeg and Hudson's Bay ; the waters flowing in these opposite directions approach, in one place, within two leagues of one another. The sources of the Mississippi are Leech Lake, White Bear Lake, and Upper Red Cedar Lake. The first, which is the greatest, is situated in north latitude $47^{\circ} 38'$, and in the meridian of 95° from London. *Course*.—It runs in a south-east direction to the parallel of thirty-seven degrees ; then takes a sweep to the south-west ; and afterwards pursues its course, with various windings, in a direction nearly south, to its outlet in the Mexican Gulf. Its *length* from its source to its outlet in the Mexican Gulf, in latitude $29^{\circ} 6'$, is about 2500 miles. Its *width* from one to two miles, though in some places much less ; at Fort Adams it is contracted to 900 yards ; between the falls of St Anthony and the confluence of the Illinois, it is from 300 to 900 yards ; at the mouth of the Missouri, 2500 ; at St Louis, 1457, thence to the Arkansas, 1500 ; to the mouth of Red River, 1600 ; at New Orleans, and to the sea, 1500. Its *current* is from three and a half to four miles an hour. In low water a boat will float down at the rate of from forty-five to fifty miles in twenty-four hours ; in high water from ninety to a hundred ; and at a mean height, from sixty to seventy miles. Between the Arkansas and the Delta the velocity of the current is one-third less ; and from the Delta

to the outlet it is diminished by nearly one-half. The current above the Missouri is moderate ; but it is greatly increased by the waters of this river, which undermine its banks, and change the direction of its channel. *Annual swell*.—The waters begin to swell in April, with the melting of the snows, and subside in the month of August. In some places they rise to more than thirty feet in height ; and during the period of high water, the western bank is completely inundated to the distance of 1000 miles from the Mexican Gulf, except from Fort Plaquemine to New Orleans, a distance of 130 miles, where the waters are confined within their channel by an embankment of earth six feet in height. The tide extends as high as New Orleans, where the common rise is from twelve to fifteen inches. *Bayous*.—Below the junction of Red River the superabundant waters of the Mississippi are discharged by various channels, the first of which the *Chaffalio*, or *Atchafayala*, runs to the bay of the same name in the Gulf of Mexico, a course of 193 miles. There are several others of very considerable dimensions,—the Tunica, Manchac, La Fourche, and Plaquemines, of which we shall give a particular description in our article on the state of Louisiana. *Depth*.—The eastern pass, or channel to the ocean, called the *Balise*, has seventeen feet water on the bar ; thence to New Orleans the depth is forty feet ; towards Red River it increases to

sixty ; from the junction of the Ohio to that of the Missouri, the average depth is fifteen feet ; it preserves generally the same depth from the confluence of this last river to the Gulf of Mexico, a distance of 1364 miles. The banks are generally formed of high perpendicular rocks, or loose alluvial soil, great portions of which are often washed away by the annual floods. The ground on which Fort Chartres stood has nearly disappeared. *Navigation.*—The Mississippi is navigable from its mouth to the falls of St Anthony, in latitude $44^{\circ} 50'$, and thence to 1600 miles above St Louis. The falls of *Pakagama*, where the river is but twenty yards wide, terminate the navigation. Vessels of 300 tons ascend as high as Natchez, more than 400 miles from the sea ; but their progress, owing to the velocity of the current, is often so very slow, that the passage from the sea to New Orleans is from five to thirty days, whilst they descend the same distance in twelve or fourteen hours. The usual progress of a boat up the river is about five leagues a-day. But the steam-vessels, of which there are now about twenty-five on the Ohio and Mississippi, sail against the stream at the rate of sixty miles a-day, when heavily laden. These vessels, which are from fifty to four hundred tons burden, are generally built at Pittsburg. *

* Birkbeck's Notes. 1817.

After the 1st of July, the water becomes low, and islands, shoals, and rapids, render the navigation tedious and difficult above the river De Moins. At the falls of St Anthony the whole mass of waters are precipitated over rocks, which in one place have sixteen feet and a half of perpendicular elevation. The rapids above the De Moins river are eleven miles in length. Near the Sauteaux River the navigation is obstructed by islands; and at the Grand Rapids, 233 miles above the falls of St Anthony, the rocks extend to the distance of two miles. The falls of Pakagama are formed of a smooth rock, which has an elevation of about thirty degrees. The latitude of different points on this river was first ascertained by the French engineer *Le Sueur*, in the year 1700. Fort Natchez in $31^{\circ} 46'$; the mouth of the Yazoo in $32^{\circ} 36'$; Fort Arkansas in $34^{\circ} 17'$; Fort Assumption in $35^{\circ} 10'$; the river Margot $35^{\circ} 11'$; Fort Prud'homme $35^{\circ} 40'$.

The Mississippi has numerous branches on both the eastern and western sides, which we shall here enumerate, and then give a short description of the most remarkable,* beginning with the most

* Mr Bradbury has furnished the following calculation of the surface watered by this river. Missouri territory, 985,250 square miles; North-west territory, $\frac{1}{12}$, 53,415; Illinois territory, (the whole,) 52,000; Indiana state, $\frac{1}{20}$, 37,050; Ohio state, $\frac{4}{5}$, 35,088; Pennsylvania, $\frac{1}{3}$, 16,493; New-York, $\frac{1}{100}$, 521; Maryland, $\frac{1}{100}$, 140; Virginia, $\frac{2}{3}$, 28,200; Kentucky, (the

northern and proceeding downwards. *Eastern Branches*.—1. *Wild Oats* river. 2. *Muddy river*; width near its mouth twenty yards. 3. *Red Cedar* river. 4. *Scrub Oak* river. 5. *Clear* river, falls in below the 45th parallel, where its width is eighty yards. 6. *Lake* river, width fifteen yards. 7. *Black* river. 8. The *St Francis*, or *Leaf* river, width 200 yards, current gentle, course southerly. 9. *Rum* river, issues from the *Thousand Lakes*, (*Les Mille Lacs*,) and runs south to its junction above the falls of St Anthony. When the waters are high their width is fifty yards. The source of this river is thirty-five miles south of Red Cedar Lake, to which Indian canoes ascend. 10. *St Croix* river, has its sources about the 46th degree of latitude, near those of the *Burntwood* river of Lake Superior, and runs a south-west course to its junction below the falls of St Anthony. Near its mouth it is eighty yards in width; and having a gentle current, and no cataract, it affords an easy

whole,) 40,110; Tennessee, (ditto,) 43,200; Mississippi territory, $\frac{1}{3}$, 29,560; state of Orleans, $\frac{1}{2}$, 20,500; Georgia, $\frac{1}{30}$, 2000; North Carolina, $\frac{1}{50}$, 1100; South Carolina, $\frac{1}{150}$, 152. In all, 1,344,779 square miles, or 860,658,560 acres. This author remarks, that this area is nearly twenty-eight times the extent of England and Wales, and eleven times that of Great Britain and Ireland;—that the whole empire of China is only estimated at 800,000,000 of acres. The whole territory of the United States is 1,205,635,840 acres. (p. 236, 237.)

navigation to the distance of 200 miles. Its eastern branch, called *Flute's* river, issues from a lake. At the distance of 500 yards from the mouth of the St Croix, is the lake of the same name, thirty-six miles in length, and from one and a half to three in breadth. This river was formerly well known to the French, who built the fort of the same name on its bank, about forty leagues from its mouth, and not more than twenty-five from Lake Superior, with which they found, with the exception of a few miles of portage, a water communication by the *Neouissa Couat*, which discharges its waters near the bottom of that lake.* 11. The *Chippeway*, or *Sauteaux* river, issues from lakes in the north-west territory, situated a little above the forty-fifth degree of latitude, and runs a south-west course to its junction below Lake Pepin, an expansion of the river Mississippi. It is a fine stream, being half a mile in width to a considerable distance from its outlet. Its western branch is called Copper Mine River; its eastern, Vermillion, Rufus, and Buffalo. Above the first is a cataract, which interrupts another direct water communication, extending towards Flute river and Red river of Lake Superior. Lake Pepin, which is nothing else than an expansion of the river, is twenty-two miles in length and four in breadth. It was for-

* Bellin, p. 124.

merly known by other names, *Bon Secours* and *Lac des Pleurs*. There were formerly two small French Forts near its entrance erected for the protection of the lead mines in the vicinity ; and some leagues higher up Fort *Le Sueur*, built on the largest of a cluster of islands in 1695.* 12. The river of *The Mountain* is a very inconsiderable stream. 13. *Black River* is navigable to the distance of 100 miles from its mouth. 14. *Prairie la Crosse* is a small stream from the west. 15. *Ouisconsin* River, called by the French *Ouiscou-sing*, takes its rise a little to the west of the source of Montreal river, and runs a southern course, till it approaches within a mile and three quarters of Lake Michigan, when it takes a western direction to its confluence with the Mississippi, which is 600 miles above the mouth of the Missouri, in latitude $42^{\circ} 40'$. Near its mouth it is half a mile in width, and is navigable for canoes to the distance of 175 miles in the dry season ; at other times for boats of two and three tons, to the portage between it and Fox river, which communicates with Lake Michigan, and affords the easiest channel in the dry season, for the trade between the Mississippi and the lakes. Soon after the discovery of this river, Perrot, an inhabitant of Canada, built a fort at its

* Bellin, p. 123

mouth which he named *St Nicholas*. The portage between this and Fox river is less than two miles, and in the season of high water boats pass across. From this place to Green Bay of Lake Michigan, the distance is 180 miles, and thence to Michillimackinac, about 230.* 16. *Stony Rock* River rises between the forty-eight and forty-third parallels of latitude, and between the eleventh and twelfth degree of longitude from Washington, in the north-west territory, and runs a south-west course of 450 miles to its junction with the Mississippi, below the great eastern bend of this river. To some distance from its mouth it is 300 yards in width, and is navigable 300 miles.

17. The *Illinois* River, formerly the *Theakiki*, is formed by the union of three considerable streams, the Des Planes, (Plein,) De Page, and the Kankankée. The first, which rises in the low lands bordering upon the west side of Lake Michigan, runs a south-westerly course. The De Page takes its rise a few miles west of the former, and has a nearly parallel course. The Kankankée rises in a flat marshy country, near the St Joseph of the lake, and takes a meandering westerly course, passing the southern extremity of Lake Michigan, at the distance of twenty or thirty miles.† After re-

* Stoddart's Sketches, p. 367.

† See Letters from L. H. Long, Major of Topographical Engineers, &c. in the National Register for March 1817.

ceiving the waters of this river, the Mississippi meanders through a broad valley, from six to twelve or fourteen miles in width, the sides of which rise in bluffs from the height of forty to a hundred feet. To a considerable distance from its mouth, the width of the Illinois is between 300 and 400 yards. The current runs at the rate of two miles and a half an hour, and affords an uninterrupted navigation of 230 miles for large boats, and for small ones to the distance of 460 miles, where it approaches Lake Michigan. The rapids at the mouth of Vermillion river are only perceivable when the water is low; and between it and the Chicago river. Of this water the largest portage does not exceed four miles; and after heavy rains boats pass from one to the other across the isthmus, which is about eight miles in breadth; and, being low and level, a canal communication might be opened at a small expence, which, with the exception of nineteen miles of land carriage, would extend the inland navigation from New York to New Orleans.* The southern branches of the Illinois are the Vermillion river, Rainy river, Crow Meadow, and Michillimakinac. On the northern, or north-west side, it receives Fox river, March river, the Demiquian, Sesemequian, Sagamond, and Mine rivers. *Mine River*, which falls in 120

* Hutchins's Topographical Description, p. 42.

miles from the Mississippi, is fifty yards wide, and very rapid. The *Sagamond*, whose junction is fifteen miles above the former, is 100 yards wide, and is navigable for small boats, or canoes, upwards of 180 miles. The *Demiquian*, 165 miles from the Mississippi, is fifty yards wide, and is navigable 120 miles. The *Sesemequian*, 177 miles distant, is forty yards wide, and navigable sixty miles. The *Michillimackinac* is fifty yards wide, and is navigable ninety miles. Near its mouth are thirty or forty small islands. The *Demiquian* lake, 171 miles from the Mississippi, and 200 yards west from the river of that name, is of a circular shape, six miles across, and discharges itself by a small passage, four feet in depth, into the Illinois river. The Illinois lake is nineteen miles and a half in length, and three in breadth. * In 1679, De la Salle made several establishments on this river; and afterwards, the Peoria Post was erected, twenty leagues from its mouth. †

18. *Wood* creek, a small stream, which falls in opposite the Missouri, is now well known as the place of encampment of the expedition of Lewis and Clarke.

19. *Kaskaskia* river rises in the Illinois territory, between the 39th and 40th degree of latitude, and 11th and 12th degree of longitude from Washing-

* Schultz's Travels, Vol. II. p. 42.

† Stoddart's Sketches of Louisiana, p. 368.

ton, and runs in a south-south-west course to its junction, eighty-four miles below the Illinois river, and six miles below *Saline* creek, on the opposite side, where there are numerous salt springs. It is navigable for small boats 130 miles. * 20. The *La Vase* river, which comes from the north-east, and empties itself into the Mississippi, fifty-five miles above the mouth of the Ohio, is navigable for boats about sixty miles from its mouth. † 21. The *Ohio*, which we shall afterwards describe, enters in latitude $37^{\circ} 22'$. 22. The *Kaskampa*, which has two branches extending in a western direction, falls in opposite New Madrid. 23. The *Reelfoot* river, which is also formed of two branches, running from the west, has its junction below the line which separates the state of Tennessee from Kentucky. 24. The *Obian* river, which has three branches extending in the same direction, unites below the former. 25. The *Chickesaw* river runs a western course from near a branch of the Tennessee, and falls in near the 36th degree of latitude, 26. The *Forked Deer* river, which runs a north-west course, enters below the first Chickesaw Bluffs. 27. *Cold Water* river, which has a communication with the western or Talahatche branch of the Yazoo, and also with the Mississippi,

* Hutchins's Topographical Description, p. 35.

† Ibid.

falls in a little above the 34th degree of latitude. 28. The *Yazoo* river rises near the 35th degree of latitude, below the southern limits of the state of Tennessee, and pursues a south-west course to its junction, in latitude $32^{\circ} 29'$, 112 miles above Natchez. It is 160 yards wide at its mouth, and is navigable 130 miles. Its branches are the *Talahatche* creek, *Cold Water*, *Yellow*, and *Upper* creek. 29. *Black* river takes its rise above the 33d degree of latitude, and near the 12th degree of longitude from Washington, and joins the *Mississippi* on the 32d parallel of latitude. The most remote branch is called *White Oak* creek, the next the *Loonachitto*, and the eastern branch *East* creek. Between *Black* river and the *Homochitto*, no considerable stream falls into the *Mississippi*. The only small streams are—*Gibson's*, *Sport*, *Coles*, and *St Catharine's* creek. 31. The *Homochitto* river falls in a little above the 31st degree of latitude, the southern boundary of the *Mississippi* territory. 32. *Buffalo* river, which falls in below the former, with which it has a communication, is 100 yards wide, and is boatable to the distance of 100 miles from its mouth. 33. The *Ibberville* runs west from the *Amité* river to its junction with the *Mississippi*, 120 miles above New Orleans. In dry weather, its bed, near the confluence, becomes dry; but, towards the other extremity, there is considerable depth of water at

all seasons ; and, when the waters are high, they flow through the Ibberville into the lake Maurepas.

Western Branches of the Mississippi, northward of the Missouri.—1. *Pine* river has its junction near the 46th degree of latitude, where it is eighty yards wide. It has a communication with Leech lake. 2. *Crow* river enters from the south-west, in $45^{\circ} 49'$ of north latitude. It is thirty yards wide at its mouth. Barks ascend to Leaf river, where there is a portage of half a mile into the Otter Tail lake, a principal source of Red river. 3. *Elk* river falls in above the 45th degree of latitude, or the Little Falls of the Mississippi. 4. *Sac* river, which bears south-west, is 200 yards wide at its mouth. 5. The *St Peter's* river, which falls in ten miles below the Falls of St Anthony, is navigable to its source in a lake, called by the French *Lac des Tintons*, 400 miles from its mouth, between the 45th and 46th degrees of latitude. Its course, from its source to the distance of fifty French leagues, is nearly east ; it then makes a bend, and runs nearly north-east thirty leagues to the Mississippi, at a short distance from which it follows nearly the course of the latter. On the north-eastern side, it receives the Chippewa ; from the south-west, the Yellow Wood, Red Wood, and Red Marble streams, the last of which has a branch called Green river. At the bend of

the St Peter's, where it receives the two branches formerly known by the names of Green river and St Remi, the French had a fort called *L'Huilier*, or Fort *Vert*, so named on account of a greenish earth found in the vicinity. The latitude of this fort, as observed by Le Sueur in 1700, is $44^{\circ} 20'$; that of the mouth of the river, $44^{\circ} 55'$. 6. *Canon* river falls in above *Lake Pepin*. 7. *Clear* river. 8. *Root* river. 9. The *Upper Jowa* has its junction near the 43d parallel of latitude, not far from some of the villages of the Sioux Indians. 10. The *Cayard* joins opposite the Ouisconsin. 11. *Turkey* river bears south-west from the point of junction, and is 100 yards in width. On the northern side of its outlet are the villages of the Fox Indians. 12. *Great Macoketch* river comes from the west, below the 42d degree of latitude, which it crosses in its course. 13. The *Wiespinan* river comes also from the west, and falls in a little below the line of boundary between the north-west and Illinois territories. 14. *Walisapinum* runs parallel to the Red Cedar river, between the Jowa and Turkey.* 15. *Jowa* river bears south-west from the Mississippi, near its mouth, below the 31st degree of latitude, and, at the distance of 100 miles, has a north-west direction. At its mouth it

* Not marked on Melish's Map of the United States, 1816.

is 150 yards wide, and is navigable 300 miles. It receives Red Cedar river. On the northern side of its confluence are the Ayowa villages. 16. River *De Moines* (*Moingona* of the French) has its source in the *Pelican* lake, towards the 44th degree of latitude, between the Red Wood branch of St Peter's river of the Mississippi and the Prickly Pear river of the Missouri, and runs in a south-east course 450 miles, by computation, * to its junction in latitude $40^{\circ} 20'$, 232 miles from the confluence of the Missouri. It preserves nearly the same dimensions, and is navigable throughout its whole extent, though its waters are not deep, and especially near its entrance, where the channel is also narrow. Below the 43d degree of latitude, it passes within ten miles of the Spirit Lake of the Little Sioux river. In the upper angle of its confluence are the Sac Villages, situated on the bank of the Mississippi; and above Fort Gillespie, on the opposite or eastern side of the De Moines, are several villages of the Ayowa Indians. It has several branches, of which the principal is on the southwest side, named *Racoon*, and is navigable some hundred miles. The French traders had explored this river to its source, on account of the magnifi-

* Stoddart's Sketches, p. 366. Brackenridge makes the length of this river about 800 miles, p. 49.

cent meadows which it traverses covered with bison and deer. Its course was supposed to be about 250 leagues.* 17. The *Wyoconda* River is a small stream which runs nearly due east. 18. The *Jayflne*, twenty miles farther south, bears south-west, and is thirty yards wide at its junction. 19. *Salt River*, or *Oahahah*, 120 yards wide at its confluence, is navigable 200 miles. 20. *Quiver River*, a small stream, takes an eastern course, and falls in at the thirty-ninth degree of latitude, above the Missouri.

Western branches of the Mississippi, southward of the Missouri.—21. The *Maramec*, *Merrimac*, or *Merimeg*, falls in fifteen miles below St Louis, where it is sixty yards in width.† During the highest rise of water, it affords a boat navigation for nearly 100 miles.‡ 22. The *St Francis* (*St François*) River rises about fifty-five or sixty miles to the west of St Genevieve, and joins the Mississippi 305 miles below the Ohio, after a course computed at about 460 miles. At its mouth it is 200 yards in width; but the naviga-

* Bellin, p. 123.

† Stoddart, p. 375. Schultz states its width to be 100 yards, 15 miles from Carondelet, where it was fordable.

‡ According to Brackenridge, the whole extent of its navigable waters is 350 miles.

tion is obstructed by rifts. * It follows nearly the course of the Mississippi; and Earthquake Lake, with which it communicates near New Madrid, is but seventeen miles distant from that place. Near its mouth it receives Eel river from the north. 23. *White River* rises about 100 miles west of the source of the St Francis, with which it runs nearly parallel. Its course is very irregular, and computed to be about 700 miles, 600 of which it has been navigated. † The channel is deep, and generally free from obstructions. In the season of high water there is a boat communication with the Arkansas river, by means of a channel which connects it with the latter, about twenty miles from the Mississippi. Boats ascending to the Osark village, a settlement of French and Indians, about fifty miles from the Mississippi, pass through this channel, where there is little current, to avoid that of the Mississippi, which is very strong here through a space of twenty-two miles. ‡ *White river* receives numerous branches, which descend from the different chains of mountains to the south

* Stoddart, p. 376. Schultz states it to be only 100 miles. Vol. II. p. 122.

+ Brackenridge gives the extent of its navigable waters at 100 miles only.

‡ Stoddart, p. 376.

of the Osage river. On the southern point of the entrance of this river, the French had formerly an establishment and fort, called also Fort *St François*. 24. The *Arkansas*, or *Arkansaw* River, called by the French *Acansas*, rises in that elevated chain of the mountains of Mexico, * near the fortieth parallel, where also originate the Platte and the Rio del Norte. The general direction is nearly south-east; but its course is very irregular, running 2173 miles† to its junction near the thirty-fourth degree of latitude, twenty-two miles below White river, and 419 below the Ohio. From its outlet to the mountains, the distance is 1981 miles, to which point it is navigable for small boats. Beyond this there is a constant succession of rocks and narrow meadow ground. During the dry season it loses almost all its waters at the distance of 1500 miles from its mouth, where the bed is sandy, and the banks naked; but towards the mountains, where the channel is contracted, the bottom gravelly, and the banks covered with cotton wood, the water is sufficiently deep for the passage of small boats. Its width near the mouth is about

* The peak of the highest mountain, seen at the distance of 100 miles, is elevated more than 18,000 feet above the level of the sea.

† Stoddart gives its whole length 1500 miles. (p. 377.) Brackenridge the length of navigation 2000 miles. (p. 51.)

400 yards; but is much greater in different places, particularly where it approaches the southern branch of the Kansas, in latitude $37^{\circ} 44'$. In its course the Arkansas receives several rivers, some of which are navigable more than 100 miles. On the northern side, above the rapids, 700 miles from its mouth, it receives the Grand and the Vermilion rivers; the former, near its junction, is 130 yards in width, and reaches near the sources of the Osage river of the Missouri; the latter is 100 yards in width. On the southern side it receives the Negracka river, (which enters at the commencement of the Craggy Cliffs,) the Grand Saline, or *Newsewhetonga*,* 150 yards wide at its mouth, and the Canadian river, which has a considerable branch called *Necowugasca*. This information is derived from the narrative of Major Pike, who explored this river to its source; and he remarks, "that through its channel and that of the "Rio Colorado of California, which is navigable "for ships of burden, a communication might be "opened between the Atlantic and Pacific Oceans, "with not more than 200 miles of land carriage." The Arkansas passes through a delightful country, abounding in mines, and covered with flocks of buf-

* Jefferson's River on Melish's map. On the northern side Verdigris is the only one named.

falo, elk, and deer. On the northern bank of the river, at the distance of three leagues from its mouth, the French had formerly a fort in the midst of three Indian villages.

Red River * rises in the mountains of New Mexico to the north of Santa Fé, and running first in a north-east, and afterwards in a south-east direction, 1450 miles, unites with the Mississippi just below the thirty-first degree of latitude, 243 miles above New Orleans. Near its junction it is about 500 yards wide; afterwards it contracts to 300, and 250. *Navigation*.—According to Stoddart, † loaded boats may ascend 950 miles in the season of high water, generally from February to June, but in the dry season there are many obstructions. According to Brackenridge it is navigable 600 or 800 miles; and its waters extend 2500 miles. ‡ Schultz § remarks, that it is said to be navigable from 1200 or 1500 miles. About 150 miles from its mouth the navigation is interrupted in the dry season by a ledge of rocks called rapids, which extends two miles in length. At the distance of between 600 and 800 miles the navigation is again obstructed by a mass of timber and earthy

* *Riviere Rouge*, so called by the French from the redness of its waters, which is derived from the red sand of its banks and bed.

† P. 379.

‡ P. 48.

§ Vol. II. p. 154.

substance which floats on the surface, and is firmly connected with the banks. This river, on account of its communication with the Spanish settlements, attracted the attention of the French at an early period, and they erected a fort named *St Jean Baptiste*, on an island formed by this river, at the distance of seventy French leagues from its mouth, in the midst of the Natchitoches nation of Indians, then pretty numerous, which induced the Spaniards to erect a small fort at the Adages seven leagues to the south-west of the former. These are all the considerable streams that join the Mississippi on the east or west side, except the Ohio, which shall now be described.

The Ohio River.—The Monongahela and Alleghany rivers unite at Pittsburgh, and form this fine river, which runs a course of 1188 miles to join the Mississippi in latitude 37° . Fifteen large streams unite with the Ohio, all of which are navigable to a considerable distance. The *Alleghany* branch, which rises in the state of Pennsylvania, on the western side of the Alleghany Mountains, is navigable beyond Red Stone Creek, a distance of 200 miles; and by French Creek has a direct communication with the waters of Lake Erie. Its outlet is 400 yards in width. When the waters are high, it runs at the rate of four miles an hour; the mean velocity is a mile and a half. The *Monongahela* is navigable in all

seasons for boats to Morgantown, 100 miles from its embouchure ; and during the swell of the waters in spring and autumn, ships of 400 tons burden may enter, and proceed to some distance from its mouth, which is 450 yards in width. The mean velocity of the current is two miles an hour, except during the period of the swell of the waters in spring and autumn, when it is from three to four miles. The *Yohogany*, a branch of the Monongahela, which enters 134 miles from Clarksburgh, is navigable to the distance of fifty or sixty miles. Its mouth is 150 yards in breadth. The *Muskinghum*, or *Elk's Eye*, of which the outlet is 250 yards in width, is navigable for small boats through its whole course to its head in a small lake, a distance of 150 miles ; and large boats ascend to the *Three Legs* 110 miles from its mouth. *Great Hockhocking*, which unites with it 200 miles from Pittsburgh, is navigable to the distance of seventy miles. From its source to the Cayahoga river, which communicates with Lake Erie, there is but a mile of portage. The *Great Kanawha* rises in North Carolina, in the easternmost ridge of the Alleghany Mountains, and joins the Ohio 283 miles below Pittsburgh. The navigation is good for the distance of ten miles ; thence to the falls sixty miles the stream is rapid, and the passage of boats is interrupted by a cataract called the Great Falls, seventy miles distant from its mouth, which

is 500 yards in width. From the Great Kanhawa to James river, which enters into the Chesapeake Bay, the portage is but a few miles. The *Little Kanhawa* is a large stream which interlocks with the waters of the Monongahela. *Great Handy*, or *Tottery* river, is navigable to the Ouasioto Mountain. The *Big Scioto*, which falls in under the parallel of $38^{\circ} 43'$, at the distance of 390 miles from Pittsburgh, is navigable nearly 200 miles, to a point from which the portage is but four miles to Sandusky river of Lake Erie. The *Little Scioto*, which enters 378 miles from Pittsburgh, is thirty yards in width. *Salt* river, which discharges itself on the south-east side, twenty miles from the rapids, by an outlet of 150 yards in width, is navigable thence to the distance of sixty miles. The *Great Miami*, or *Rocky* river, which enters 551 miles from Pittsburgh, is 200 yards wide at its mouth; and, at the distance of 120 miles, to which it is navigable for loaded canoes, it is contracted to thirty yards. The *Little Miami*, which enters 516 miles from Pittsburgh, is very shallow. *Licking* river, which enters 524 miles from Pittsburgh, is navigable to the distance of seventy miles from its mouth. *Kentucky* river, which enters 627 miles from Pittsburgh, is navigable in high water for loaded boats to the distance of 160 miles from its mouth. It is ninety yards wide to the distance of eighty miles. *Buffalo* river is navigable for

batteaux of seven tons 150 miles. The *Wabash*, which joins the Ohio 1028 miles below Fort Pitt, in latitude $37^{\circ} 41'$, is navigable for small boats, drawing three feet water, to Ouitanon, a distance of 412 miles. It is 400 yards wide at its mouth. When the waters are high, the banks are overflowed to a considerable distance. The *Cumberland*, or *Shawnee* river, (called by the French *Chouanons*, the name of the Indians who formerly lived on its banks, and afterwards by the English *Hugohegee*,) which discharges its waters into the Ohio, 1118 miles from Pittsburgh, is 300 yards wide at its mouth, and, during high water, is navigable for ships of 300 and 400 tons 200 miles above Nashville. The *Tennessee*, or *Cherokee* river, the largest branch of the Ohio, of which the outlet is 1131 miles from Pittsburgh, rises in the Iron Mountains, on the borders of Carolina and Georgia, and passes across the Cumberland ridge, where its bed is confined within the width of seventy yards; though, above the mountains, it is 1200 yards, and at its mouth 500. Vessels of burden can ascend no higher than the *Mussel Shoals*, which extend twenty miles in length, and interrupt the navigation, except in high floods. From these shoals it is navigable for vessels of forty tons burden to the mouth of the Holstein river, and up that river to Long Island, 1000 miles from the mouth of the Tennessee.

The following statement of the area from which the Ohio derives its water, is given by Mr Bradbury, (p. 282.) Illinois territory, $\frac{1}{10}$, 5200 miles; Indiana territory, (the whole,) 37,050; State of Ohio, $\frac{4}{5}$, 35,088; Pennsylvania, $\frac{1}{5}$, 16,493; New York, $\frac{1}{100}$, 521; Maryland, $\frac{1}{100}$, 140; Virginia, $\frac{2}{5}$, 28,200; North Carolina, $\frac{1}{50}$, 1100; South Carolina, $\frac{1}{50}$, 152; Georgia, $\frac{1}{50}$, 2000; Kentucky, (the whole,) 40,110; Tennessee, $\frac{5}{4}$, 32,400. In all, 198,464 square miles. The area of England and Wales is 49,450 square miles. It therefore appears that this river receives the water of a surface four times that extent. This surface is comprehended betwixt the parallels of 35 and 43 degrees of latitude,—a climate, perhaps, the best on the globe, in all that relates to the comforts of man.

Fishes found in the Waters of the Mississippi.
—Sturgeon, (fresh water,) about two feet and a half or three feet long, but in circumference not proportionable. Carver * says, “ that the flesh is
“ exceedingly delicate and finely flavoured, and
“ that he caught some in the head waters of the
“ river St Croix that far exceeded trout. They
“ will not take a bait, and must be struck with a
“ spear.” This author describes another species,

* Travels, 3d edition, London, p. 479.

found in the Mississippi only, the upper jaw of which, three inches and a half broad, extends fourteen or fifteen inches beyond the under ; but the flesh is inferior to that of the former fish. Major Stoddart notices a species of small sturgeon, seldom more than three feet long, with a soft shell, resembling the sea-turtle. * *Cat-fish*, or pout, of three kinds, weighing from six to sixty pounds, and it is said that some have been caught of 160 pounds weight. Its flesh is fat and luscious, resembling that of an eel. Its fins are bony and sharp ; and its head, of a round form, is armed with three or four sharp horns, about two inches long. † The carp (buffalo-fish) and chub resemble those of England in size and shape, though, perhaps, inferior in flavour. The old wife, or hickory shad, abounds in the lower parts of the river, called the Delta. The other fish are perch, a kind of sheephead, trout, gar, pike, mullet, herring, and eels. Near the sea, there is great plenty of oysters, crabs, and shrimps. Mr Schultz doubts whether the trout and pike are inhabitants of the Mississippi. ‡ A remarkable fish of those waters is the armed fish, (*poisson armé*,) eight or nine feet in length, with long teeth, and scales so hard as to resist the stroke

* Sketches, &c. p. 163.

† Carver, p. 478.

‡ Vol. II. p. 180.

of a hatchet. Alligators of various size abound in all the waters of the low country, and ascend as high as the Arkansas river, but are most numerous in the bayous and lakes. They attack and destroy hogs and small animals ; but are generally considered as harmless, except when provoked or wounded.

The whole of the rivers we have now described flow into the Gulf of Mexico by the Mississippi, of which they are properly branches. The country watered by these streams, which may be considered as the basin of the Mississippi, consists of the vast region extending between the Alleghany mountains on the east, and the Rocky mountains on the west. Its average breadth is about 1400 miles ; its length as much, and its whole superficies nearly a million and three quarters of square miles. If peopled to one-third of the density of England, it would contain a hundred millions of inhabitants. Its most remarkable feature is the great regularity of its surface, which is scarcely any where broken by considerable hills, except at its extremities, descending from each side to the bed of the Mississippi, with a declivity so uniform and gradual, that nearly all the rivers which water this immense area are navigable almost to their sources. These rivers constitute in fact a vast system of inland navigation, of which the Mississippi is the central trunk, and

they bestow upon this country a capacity of improvement beyond what is enjoyed by any other region on the face of the globe. The whole extent of these natural canals cannot yet be exactly known, but it may be estimated in round numbers at 40,000 miles. They are so regularly distributed over the surface, that there is seldom a tract of considerable extent without its navigable stream ; and many of these streams approach so near to each other laterally, and are separated by ground of such a description, as to admit readily of cross cuts ; so that, when the resources of a civilized population are applied to the improvement of this territory, its most distant parts will possess an unparalleled facility of intercourse ; and we may anticipate the time when the whole of its extensive surface will be locked together by a system of water communications like the most level parts of Holland. New Orleans will, no doubt, remain the emporium for foreign trade. But the main trunk of the Mississippi must necessarily be the principal scene of the inland commerce ; and it is pretty evident from the course and situation of the large tributary streams, that the focus of its greatest activity will be near the mouth of the Ohio. Here, at some period not very distant, great cities may be expected to rise filled with an industrious population, the seats of arts and manufactures, and the centres of commercial inter-

course. It is pleasing to look forward to the boundless field which this highly favoured region opens up to the talent, activity, and enterprise of civilized man.

Having thus finished our sketch of the Mississippi, and its principal tributary streams, we shall proceed to notice, in the same brief manner, all the other great rivers of the United States, which run from the mountains to the ocean, beginning with those that fall into the Mexican Gulf, and proceeding northward till we come to the river St Croix, the north-eastern boundary of the United States.

Pearl river rises in the Mississippi territory, near the 33d parallel of latitude, and, pursuing a southern course of more than 200 miles, falls into Lake *Borgne*, to the east of Lake Ponchartrain. It is navigable to the distance of 150 miles from its mouth, but the navigation is in some places obstructed by logs, and there is but seven feet water at its entrance. *Pascagoula* river, which rises near Pearl river, and runs nearly parallel to its course, is boatable 150 miles; but its outlet is shallow, and does not admit the passage of vessels drawing more than four feet water. *Mobile* river, which falls into the bay of the same name, is formed of the waters of the Tombigbee and Alibama, which unite at Fort Stoddart, a little above the 31st pa-

rallel of latitude. The *Tombigbee* rises to the west of the Mussel Shoals, and takes a long south-eastern course. It is navigable for sloops to Fort St Stephen's, and is boatable to within fifty miles of Bear creek, a navigable branch of the Tennessee. The other branch, the Alabama, which rises in Georgia, in the Alleghany Mountains, under the 35th parallel of latitude, divides into two branches, the Oak-fuskee and the Coose rivers; and the latter has also two branches, the Estenawy and Hiowee rivers, the upper branches of the Mobile. The Alabama is between 300 and 400 yards in width, from fifteen to eighteen feet in depth, and flows at the rate of two miles an hour. The *Apalachicola*, or *Chatahouche* river, flows from the Apalachian Mountains in the north-east part of Georgia, first in a south-west direction 300 miles, after which it takes a southerly course to the Bay of Apalache, in the Florida Gulf, of about 100 miles. It is said to be navigable from its outlet to near its source. A number of small streams enter on the western side; on the eastern, it receives Flint river, which takes a long southerly course, from near the sources of the parent stream to its junction below the latitude of 31° . It is thirty rods wide, and from twelve to fifteen feet deep. Above the confluence of this branch the Apalachicola takes the name of Chatahouche,

and forms the eastern limit of the Alabama territory, to the latitude of $32\frac{1}{2}^{\circ}$.

The preceding rivers flow into the Gulf of Mexico, and have in general a southerly course. Those now to be described flow into the Atlantic, with a course in general from south-east to south. The *Alatamaha* river, * formerly called by the English St George river, is formed of two streams, the Okonee and Oakmulgee, which run from the Cherokee mountains, in a south-easterly direction, through the state of Georgia. After their union, the river takes an eastern direction to the Atlantic Ocean, into which it discharges itself, through several mouths, after a course of 100 miles. It is 500 yards wide near its outlet ; the Oakmulgee branch between three and four hundred yards, and the Okonee 250 yards in many places. On the English maps, the upper branches of the Oakmulgee have the names of Commissioner's, Oktachai, and Togosachai creeks ; those of the Okonee river, Crooked, Town, Buffalo, and Boxon creeks. New Creek, now called Ohaopie river, is the most easterly branch of the *Alatamaha*. On its right bank, thirty-five miles from its mouth, formerly stood Fort Barrington.

The *Savannah* river rises from two sources in the

* On Melish's Map called Attamaha.

Apalachian mountains, near the thirty-fifth degree of latitude, or northern limits of Georgia, and runs a south-east course into the Atlantic, below the thirty-second degree. It is navigable for large vessels to the town of the same name, and for boats of 100 feet keel, or seventy tons burden, to Augusta; the former situated at the distance of seventeen miles from the ocean, the latter 357.* The upper branches, called *Tugelo* and *Keowee*, or *Kehowee*, are each more than a hundred yards wide, to some distance above their confluence. Below the thirty-fourth degree of latitude, two other streams enter from the west, the *Salwegee*, or *Broad River*, which was the ancient boundary between the hunting grounds of the Muskogees and Cherokees, at the outlet of which stood the English Fort Charlotte; and lower down the *Little river*, the upper part of which was called the *Georgia Creek*. The *Savannah* forms the line of boundary between the state of Georgia and South Carolina.

Santee river.—The waters of the two great branches of this river flow from the chain of Apalachian mountains, in the state of North Carolina, and afterwards, traversing that of South Carolina, they unite at the distance of 120 miles from the ocean,

* Drayton, in his *View of South Carolina*, states, (p. 31,) that above the falls there is water for boats of thirty tons, to the distance of sixty miles.

to which the river afterwards runs, in a south-easterly course, and discharges its waters through two channels, a little above the thirty-third degree of latitude. The eastern branch is called the Catawba, and afterwards the Wateree river ; the western, Broad river ; and, below the junction of a considerable and more western branch, the Saluda, it is called Congaree river. Boats of seventy tons navigate from the sea to the falls of those branches, near the thirty-fourth degree of latitude. A remarkable circumstance is, that the great branches of this river are each wider than the channel of their united waters, which in few places exceeds 200 or 300 yards, while Broad river and the Catawba are from 300 to 400. The *Great Pedee* river also runs from the Alleghany mountains to the sea, in a south-eastern direction, through North and South Carolina. In the former it has the name of Yadkin, and receives on each side several considerable branches, Lynch's Creek, Little Pedee, or Waggamaw,* and Black river. This river is navigable 200 miles for boats of sixty or seventy tons ; and when the waters are high, those of smaller size descend from within the limits of North Carolina.

James river, formerly named *Powhatan*, issues from two sources in the Alleghany and Blue

* Also written *Wakkamaw* by Morse ; by others *Waccamah*.
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mountains ; the northern gives rise to the *Rivannah* branch, and the southern to the *Appomattox*, which issues from the south-west mountains. These uniting, form a large stream, which falls into the southern extremity of the *Chesapeake Bay*, on the coast of *Virginia*. Vessels of 125 tons ascend within a mile of *Richmond*, where the falls commence, which, in the space of six miles, form an ascent of eighty feet. Along these rocks the boat navigation is continued by means of a canal. The great branches of *James river* are navigable to a considerable distance. A short arm called *Elizabeth river* forms at *Norfolk* a fine harbour, with thirty-two feet water, capable of containing 300 ships. *York river*, which empties itself into the *Chesapeake Bay*, is formed of two streams ; the *Pamunkey* and *Mattaponey*, which have their sources in the *Blue Mountains*, and are navigable to the distance of sixty or seventy miles. Vessels of the greatest burden ascend to *Yorktown*, where, at high tide, there is a fine harbour, with four fathoms water.

The *Potomac* river rises in the *Alleghany* mountains, below the southern limits of *Pennsylvania*, and runs in a south-easterly course across the state of *Virginia* to the *Chesapeake Bay*. The principal branch is the *Shenandoah*, which, rising in *Augusta county* in *Virginia*, runs, in a north-easterly course, 250 miles, and unites with the *Potomac* before it bursts through the chain of moun-

tains called the Blue Ridge. Another branch, the Monocacy, falls in fifty miles above Georgetown. The Potomac is seven miles and a half in width to some distance from the Chesapeake Bay, and is sufficiently deep for the passage of large vessels to the city of Washington, 300 miles from its mouth. Thence, by the aid of canals, which run along the falls above Georgetown, the main branch is navigable to New Creek, above Cumberland, a distance of 230 miles. The Shenandoah branch is navigable 100 miles from its mouth ; the Monocacy to the distance of thirty miles.

The *Susquehannah* river is formed of two great branches, called the North-East and West branches ; the former having its source in the Otsego Lake, in the state of New York, near the forty-third parallel of latitude ; the other running from the western side of the chain of Alleghany mountains. These two streams, which have several branches in their very irregular course, unite, at Sunbury, in Pennsylvania, near the forty-first degree of latitude, from which the river has a southern, and afterwards a south-eastern direction, through the state of Pennsylvania, to the northern extremity of the Chesapeake Bay, in the state of Maryland. In this course its waters are augmented by those of the Juniata branch, from the Alleghany ridge, and the Swetara from the Kittatiny mountains ; and near its mouth it is more than a mile wide ; but the chan-

nel is obstructed by rapids at the distance of twenty miles from its outlet. The western branch is navigable ninety miles from its mouth. The Susquehannah is the channel of trade between the western country and Baltimore.

The *Delaware* river, which discharges itself into the bay of the same name, rises near the forty-second degree of latitude, and runs, first in a south-easterly course, separating the state of New York from that of Pennsylvania; then it runs south-west, again south-east, and afterwards south-west, separating this last state from those of New Jersey and Delaware. At Philadelphia, which is situated on its banks, 120 miles from the sea, its waters rise with the tide to the height of five or six feet, affording sufficient depth of water for ships of the line; sloops ascend thirty miles higher, to Trenton, and boats 100 miles farther. On its western side it receives two great branches, the Schuylkill and the Lehigh. The former, which falls in six miles below Philadelphia, is boatable to the distance of ninety miles from its mouth; the latter, which has its junction sixty miles north of this city, is navigable thirty miles.

The *Hudson* river rises in the high lands, west of Lake Champlain, near the forty-fourth degree of latitude, and runs in a direction nearly from north to south, into New York Bay on the Atlantic Ocean, from which it affords an easy and safe navigation for ships 142 miles, to the city of Hudson, and for

sloops to Albany, eighteen miles higher. A few miles above this last place it receives the Mohawk, or western branch, (formerly known by the names of *Eorlar* and Albany,) which, by means of canals running along its falls, is navigable for small boats to near its source, towards the Oneida Lake, and through this lake it has a communication with Lake Ontario. The great cataract in this river, which has an elevation of sixty feet, is situated near its outlet.

The *Connecticut* river has its source on the "Land's "height," above the forty-fifth parallel of latitude, and takes first a south-south-westerly course, but when near its outlet, it takes a south-south-easterly direction to Long Island Sound, in the Atlantic Ocean, running upwards of four hundred miles. At the distance of fifty miles from the sea, its channel is full of rocks, which obstruct the navigation. On both sides are a number of small branches. This river separates the state of New Hampshire from that of Vermont throughout their whole length, and afterwards passes through those of Massachusetts and Connecticut.

The river *St Lawrence* forms the northern boundary of the United States for the space of 150 miles. It is very large, and is the outlet by which the waters of the great lakes, Superior, Erie, and Ontario, are discharged. After issuing from the last, it runs a course of nearly two thousand miles, to the gulf of the same name, where, embos-

soming the island of Anticosti, it is ninety in width ; at Saguenay river, 260 miles from its mouth, it is eighteen miles ; at the island of Orleans sixteen ; at Quebec five ; at Montreal from two to four. The tide ascends 400 miles, (a league above the *Three rivers*,) affording navigation for vessels of war the whole of this distance, and for boats to Lake Ontario ; but the current above the tide is extremely rapid, running at the rate of seven or eight miles an hour, and increasing in rapidity to Montreal, where it runs at the rate of ten miles. The ice of this cold region renders the river unnavigable one half of the year. *Anticosti* isle (named *Assumption* isle by James Cartier, in 1534) is forty-eight French leagues in length, and ten in its greatest breadth. The soil is sterile and rocky. The *Isle of Orleans*, (first named *Bacchus' Isle*,) below the city of Quebec, is seven leagues in length, and two in breadth, and nearly forty-eight English miles in circumference. The soil is good, and well cultivated. The population about 2000. The latitude and longitude of different points on this river were first ascertained about the year 1750, by De Lolbiniere, an officer of the Canadian troops ; by Deshayes, Father Bonne Camp, a mathematician of the order of Jesuits ; and De Chabert, a naval officer. The voyage of the last, consisting of a quarto volume, with plates, was printed at the Royal Press of Paris, in 1753.

CHAPTER IV.

CLIMATE.

To form a just idea of the climate of the United States, we must consider that the territory extends from the 30th to the 49th degree of latitude, and from the Atlantic to the Pacific Ocean ; that it is traversed by mountains which rise in many parts 4000 feet above the level of the sea ; is washed on the north by great lakes, or inland seas ; is intersected by rivers of uncommon magnitude, terminating in bays some hundred miles in length ; that it is covered in the interior with thick forests, and, on the Mexican borders, terminates in extensive plains of sand. It is evident that a country of such extent, and so diversified in its surface and situation, must necessarily embrace almost every variety of climate. In the northern parts, between the 42d and 45th degree of latitude, including the States of Maine, Vermont, and New Hampshire, the winter is very severe for three or four months. During this period the snow is abundant enough for the use of sledges ; and the ice of the rivers suf-

ficiently strong to bear the passage of horses and waggons. In summer the heat is very intense during five or six weeks ; and in low confined situations is nearly equal to that of the Arabian coast. In the southern parts of New York, Pennsylvania, New Jersey, and Maryland, the winter is equally cold, but is of shorter duration, seldom continuing more than fifteen or twenty days, and generally commencing near the close of October. The temperature of summer is nearly the same as in the northern states. Between the 10th of May and the 1st of November, the weather is never so cool in the morning or evening as to render a fire necessary. In the southern states, including Virginia, the Carolinas, and Georgia, the cold, though modified by particular circumstances, gradually diminishes with the latitude. To the south of the Potomac there is but little snow, except along the ridge of Blue Mountains, where the cold, owing to their elevation, is sometimes considerable for several weeks after the commencement of the winter solstice. In summer the temperature is sometimes as high as in Egypt. In the country, known by the general name of Louisiana, the seasons in the southern parts resemble those of the tropical regions, but gradually become colder as we ascend the Missouri mountains, the most elevated parts of which are covered with perpetual snow. Crossing this chain, and descending towards the Pacific

Ocean, the winter becomes gradually milder, and, along the coast, the temperature, owing to the passage of the north-west wind across the ocean, is nearly the same as in the western parts of Europe.

Mr Volney, in his view of the climate of the United States, has divided the country into four regions. 1. The coldest, including the North Eastern States, from the ocean to the chain of hills which gives rise to the Delaware and Susquehannah rivers. 2. The middle climate, including the southern parts of the State of New York, Pennsylvania, and Maryland, as far as the river Potowmac. 3. The hot climate, comprising the Southern States, the flat country of Virginia, the two Carolinas, and Georgia, as far as the 29th degree of latitude, where frost is never felt. 4. The climate of the States of Tennessee, Kentucky, and Ohio, situated on the western side of the Alleghany Mountains, which differs, in many respects, from all the preceding. The north-west territory, extending from Lake Michigan on the east, to the Mississippi on the west, and on the north to Lake Superior and the Sources of the Mississippi, presents other varieties of climate.

The climate of the Atlantic coast, situated between the 41st and 45th degree of latitude, is colder in winter, and warmer in summer, by nearly ten degrees, than under the same parallels in

Europe. It is also subject to more sudden and violent changes, owing principally to the inconstancy of the winds, which, coming from the Atlantic, often change suddenly to an opposite direction, and, traversing a high and uncleared country, produce a cold so great, that the surface of the earth and water is frozen hard in the course of a few hours, and the whole atmosphere is full of icy particles, which, striking against the face of the traveller, create a very disagreeable sensation. The winds which chiefly prevail are the north-west, south-west, and north-east. The first, which blows from the mountains and high Table Land, predominates in winter, and is by far the driest and the coldest; but along the Atlantic coast, where it meets warm clouds and warm currents of air, it produces snow, hail, and sometimes rain; along the banks of the Mississippi and Ohio rivers it produces rain in winter and storms in summer. The great dryness of this wind is manifested by its influence on the walls exposed to its action, which become harder and more durable than those which have a different exposure. From the same cause the sides of forest trees turned to the north-west are also thicker and harder than the others. The south-west wind prevails in summer, and is more constant on the western side of the Apalachian mountains than on the Atlantic coast. In the basin of the Mississippi it is said to prevail throughout

the year, except during two months about the winter solstice, which is the reason why the temperature of this country is three degrees warmer than that of the Atlantic coast, though only separated by the Alleghany mountains. Mr Volney found that this prevailing current of wind follows the windings of the Ohio, and always preserves itself unbroken in a breadth of twelve or fifteen miles, as far as Kentucky, where there is abundant rain and moisture, while the rest of the country is parched with droughts, which sometimes continue for three months. The dreadful hurricanes, so destructive to human industry, are produced by currents of cold winds rushing from the north along the Atlantic coast, and mingling with the warm winds produced by the gulf-stream. That which traversed the continent from Boston to Florida in 1757, was not felt at the former place till several hours after its commencement at the latter, as observed by Dr Franklin ; but that which desolated the southern coast in September 1804, proceeded from the opposite or windward direction.* The north-east wind, crossing a great extent of sea, brings cold and moisture on all the Atlantic coast. Proceeding southwardly, however, its effects are

* See Mease's Geological Account of the United States, p. 100. Medical Repository. Hex. 1, Vol. V. and Hex. 11, Vol. II. p. 354.

found to diminish. Its course is, in some measure, directed by that of the mountains ; and the space over which it blows is sometimes marked by the snow which it deposits. On the 14th of February 1798, more than forty inches fell, during the prevalence of this wind, at and around the city of Norfolk, while at the distance of twenty-five miles in the interior, when the wind, at the same time, blew nearly in a north-west direction, there was neither snow nor rain. The prevalence of the north-east wind on the Atlantic coast, at the period of the vernal equinox, produces effects very injurious to vegetation, which, bursting forth in the months of January or February, is destroyed by the return of frost. It is also very injurious to provisions of flesh meat reserved for winter use ; and its effects on the human body are felt by all. The violent hurricanes so dangerous to seamen, which take place about the vernal and autumnal equinox, in the Bay of Chesapeake, and near the mouth of the Hudson and Delaware rivers, are produced by this annoying current. The winds also from the south and east, which raise the temperature to 54 or 58 degrees, create so rapid a dissolution of the snow, that it melts as if under the action of steam, and the temperature becomes similar to that of spring. De Poutrincourt states, that, after his arrival in America, the winter was so mild, that he and his party amused themselves “ in singing mu-

“ sic on the river *Equille*, and dining merrily in
“ the sunshine, and yet the winters of 1607 and
“ 1608 were so severe that many Indians per-
“ ished.” *

A great difference exists between the climate of the Atlantic coast and that of the Great Basin, or valley of the Ohio and Mississippi. This was first pointed out by Mr Jefferson in his well known work “ Notes on Virginia.” Proceeding, says he, in the same parallel of latitude westwardly, the climate becomes colder, (as in advancing northwardly,) till we arrive at the summit of the Alleghany chain ; but descending thence to the river Mississippi, the increase of temperature at any given parallel is equal to what would be gained by advancing three degrees of latitude farther south on the Atlantic coast. As a proof of this it is remarked, that on the Mississippi Catalpa, trees grow spontaneously as far as the 37th degree of latitude, and reeds, or canes, to the 38th, though neither of these are found at the corresponding latitudes on the Atlantic coast. It has been observed too, that on the Scioto river, at the 39th parallel, parquets remain during the winter season ; and that, in the summer of 1799, when the thermometer was at 90°, at Monticello, (the author’s place of

* See the relation of his voyage in the history of *Nova Francia*.

residence,) and 96° at Williamsburgh, it was 110° at Kaskaskia.* This difference of climate has been since remarked by scientific travellers, and particularly by M. Volney. This traveller found that the winter does not commence in the basin of the Ohio till the approach of the solstice, and that, during the cold season, which does not continue more than forty or fifty days, the weather is often warm and temperate. The thermometer seldom falls above ten or twelve degrees below the freezing point. Frost is seen a few days in October—disappears—returns towards the end of November—again ceases, and does not become permanent till near the close of December, when waters without current, and small rivulets, are frozen from three to fifteen days. Cotton, which grows at Cincinnati and Fort St Vincent's, in the latitude of 39° , does not succeed in the Carolinas, farther north than thirty-five or thirty-six degrees, beyond which line the catalpa, sassafras, passaw tree, pacon, or Illinois nut tree, and others, do not grow. With respect to the cotton plant, Dr Mease observes, that it thrives as far north as Newcastle county, in the state of Delaware: and that the above mentioned trees bear the climate of Pennsylvania.† The astronomer, Mr Ellicot, has brought to view other

* Notes on Virginia, first edition, p. 125.

† Geological Account of the United States, p. 75.

remarkable circumstances connected with this climate. There is a much greater quantity of moisture than in the middle Atlantic states; the fogs are more common, and more dense; the dews more heavy, and, unlike those of the eastern side of the mountains, they are considered as salutary by the inhabitants of Pittsburgh. This greater degree of moisture is probably owing to the thickness of the forest, which, when opened, will give circulation to the air, and contribute to its dryness. Mr Ellicot states, that the cases which contained his astronomical instruments were injured by travelling, in such a manner, that the ivory and wood of the sextant expanded above the metal. Iron was more susceptible of rust, and brass was sooner tarnished, than in the eastern states.* Dr Drake, in his "*Picture of Cincinnati*," draws a comparison between the interior and Atlantic states, for the purpose of showing that the difference of temperature between these regions, consists more in the distribution than in the absolute quantity of heat, or, at least, if there be a difference in this respect, it cannot equal one-third of what has been mentioned. This opinion he supports, by showing, that the mean temperature indicated by the thermometer, in the states of Ohio and Pennsylvania, is nearly the same. At Cincinnati, in the former, the aver-

* Transactions of the American Philosophical Society, Vol. IV.

age result of his eight years' observation was $54^{\circ} 25'$; while the annual heat of Philadelphia, according to Dr Rush, was $52^{\circ} 5'$; at Spring Mill, on the Schuylkill, $53^{\circ} 32'$, this being the result of seventeen years' observation by M. Legaux, while that of six years by Dr Coxe was $54^{\circ} 16'$. The mean term of these is $53^{\circ} 66'$, which is only $\frac{6}{10}$ of a degree lower than that of Cincinnati, situated $50'$ farther south. The mean heat of 1810 and 1812, at Spring Mill, was $54^{\circ} 50'$, and $54^{\circ} 30'$; that of the same years at Cincinnati was $52^{\circ} 77'$ and $52^{\circ} 65'$, giving, in both cases, about one degree and two-thirds less heat to the latter than to the former.

Another climate, corresponding to that of three degrees farther south, extends along the southern borders of the great lakes, and is created by the uniform temperature of this vast mass of water, and the warm aërial current of the Ohio, which ascends thither by the Alleghany branch. It is found that the climate of the Genessee country, to the south of Lake Ontario, is more mild than on the eastern side of the Alleghany mountains. In the years 1796 and 1797, the thermometer at Bath, near those waters, was from eleven to thirteen degrees higher than at Lancaster in Pennsylvania. The operation of water mills is seldom arrested by the frost. The cattle subsist in the woods throughout winter; and the peach-tree produces excellent fruit.

The influence of the winds across these lakes is very singular. The passage of the north-west across Lakes Ontario and Huron, and of the south-west across Lake Erie, produces rain, while those from the north-east and east, which bring rain on the coast, here occasion drought.

Since the period of the first European establishments in the United States, the climate is supposed to have undergone remarkable changes. Dr Williamson * and others have observed, that the cold has greatly diminished by the clearing of the woods, and the opening of the surface by the plough ; that the easterly winds are more frequent, and extend to a greater distance than formerly into the country ; that, owing to this change, ships sailing from Europe to America arrive in one-third less time now than fifty years ago, when they were driven off the coast, in sight of port, by the strong north-westerly winds ; that the mean annual depth of snow is greatly diminished ; that the river Delaware, now seldom frozen before Christmas, was formerly frozen before the middle of November. Mr Williamson, who has paid great attention to this subject, is of opinion, that when the Atlantic states have their full complement of population, and agriculture is in-

* Observations on the Climate of different Parts of America, &c. p. 30.

troduced in the arable parts of the mountains, that cotton will be cultivated in Pennsylvania, and oranges in Maryland; though it cannot be expected, that, above the latitude of fifty degrees, the winter will become more temperate than in the corresponding latitudes of Europe. Mr Dunbar, who resides at Natchez, on the Mississippi, has given an account * of a remarkable change in the climate of this quarter, which, instead of becoming milder and more uniform, is now found to be warmer in summer and colder in winter than formerly. Orange trees, and other tender plants, within a few years, have suffered more than before this period, and the sugar-cane has been so injured during the two last winters, as to discourage the planter. In the latitude of $31\frac{1}{2}^{\circ}$, the thermometer, which formerly did not fall lower than 26° or 27° , has been seen once or twice, in the winter, for a few years past, as low as from 17° to 20° , and, on the 12th of December 1800, it sunk to 12° . It is not easy to account for this increase of cold, when the cultivation of the surface, annually increasing, is supposed to produce a contrary effect. There can be little doubt, that, in other parts of the United States, the clearing of the woods, and the opening of the

* See 8th Volume of the Transactions of the American Philosophical Society.

soil to the action of the sun, has moderated, to a considerable degree, both the cold of winter and the heat of summer.

The climate of North America, especially the maritime parts, is also affected by the gulf-stream. This immense current runs from Florida to Newfoundland, at the rate of four or five miles an hour, with a breadth of forty-five or fifty miles, and at the distance of twenty-three leagues from the shore. Its temperature is from ten to twenty-two degrees warmer than the contiguous water, varying with the depth, becoming colder in proportion to its distance from the surface, and as the depth diminishes. The warm vapours which ascend from it are condensed into mists or fogs, which hover over its surface. A great quantity of vegetable and animal productions are carried down by this stream towards the banks of Newfoundland, where they nourish swarms of cod fish, and where the floating weeds, and deep green colour of the water, serve to indicate the extent of the current.

Notwithstanding the great extremes of heat and cold, and the sudden changes of temperature experienced in the United States, it has been satisfactorily ascertained, that they enjoy a greater proportion of fine sunshine and unclouded weather than most parts of Europe. The cold of winter, so severe in the northern parts, is not unfriendly to health and longevity ; and the heat of summer is

often refreshed by storms of thunder and rain. The rains are much heavier than in most parts of Europe, and resemble the torrents of tropical climates. The mean annual quantity which falls is also greater by one-third, as appears from many observations; but there are not so many days of rain. Taking the mean of twenty years, the number of days of rain was 122 in twenty cities of Europe, while in the state of Massachusetts, at Cambridge, there were but 88, and at Salem 95. There is more thunder and lightning in the United States than in Europe. Evaporation is more rapid, and, consequently, the air is drier.

The mean annual quantity of rain in different parts of Europe, as ascertained by very accurate observations, is as follows :

At Petersburg,	-	-	-	12 $\frac{1}{3}$ inches.
Upsal,	-	-	-	15
Abo,	-	-	-	25 $\frac{5}{8}$
London,	-	-	-	22 $\frac{2}{3}$
Paris,	-	-	-	21 $\frac{2}{3}$
Utrecht,	-	-	-	28 $\frac{1}{2}$
Marseilles,	-	-	-	21 $\frac{2}{3}$
Rome,	-	-	-	30 $\frac{2}{3}$
Naples,	-	-	-	37 $\frac{1}{3}$
Padua,	-	-	-	35 $\frac{1}{3}$
Bologna,	-	-	-	25 $\frac{5}{8}$
Vienna,	-	-	-	44 $\frac{1}{3}$
Algiers in Africa,	-	-	-	29 $\frac{1}{2}$

The mean quantity of rain in different parts of the United States is as follows :

	Inches
At Charlestown in 1795, according to Dr Ramsay,	71 $\frac{1}{6}$
At Charlestown, mean estimate from 1750 to 1757,	41 $\frac{5}{8}$
At Williamsburg, according to Mr Jefferson,	47
At Cambridge near Boston, according to Williams,	47 $\frac{1}{2}$
At Andover in Massachusetts, - - -	51
At Salem, - - - - -	35
At Rutland in Vermont - - -	41
At Philadelphia, according to Dr Rush, - -	30
At Natchez, according to Dunbar, - -	39 $\frac{2}{3}$
At Drayton, mean of seven years, from 1795 to 1802, - - -	55
At Springmill on the Schuylkill, 15 miles N. N. W. of Philadelphia, in 1787, - -	32

Mean Temperature.—The mean temperature of the climate of the United States in different places, as determined by that of deep wells and caverns, and also by thermometrical observations, will be seen in the following table :

At Rutland, in Vermont, in wells at the depth of 45 feet,	44 degrees of Fahrenheit's scale.
In different places of Massachusetts,	49
At Philadelphia,	53
In Virginia,	57
At Charlestown,	63

The three first were ascertained by Mr Williams, author of the History of Vermont, the fourth by Mr Jefferson, and the fifth by Dr Ramsay.

“ Generally speaking,” says Volney, “ more rain falls in the United States in fewer days than in Europe ; and there are fewer cloudy days, more fair days, and more evaporation. Now, the cause of these different facts appears to me perfectly simple and unequivocal ; it exists in the peculiar state of the atmosphere in each of the two continents, as it is modified by their respective topographical circumstances.

“ Thus, if, in the United States, it rain more than in Europe, it is because all the winds there, except the north-west, and particularly those that are most prevalent, come from some sea, and, consequently, arrive loaded with moisture.

“ If the rain there be more heavy and sudden, it is because the winds differ widely in the degrees of heat and cold, which, in the first instance, is a cause of solution ; and the mixture of these hot and cold currents is very frequent, which, in the next place, occasions heavy and copious rains. Our fine gentle showers are so rare in the United States, that the Americans call them *English rains*, or *English weather* ; and when they do occur, which sometimes happens after the equinox, it is the fashion for people to go without umbrellas, and get themselves wet to the skin. Now, this mixture, which renders the air so variable, happens because the country is nearly flat, and the winds find no obstacle to stop

them : thus its topography has a fundamental influence on the abundance and heaviness of the rain.

“ In Europe, on the contrary, lofty mountains break the currents of air ; the atmosphere is more calm, more stationary ; the mixtures of cold and hot winds are less easy, and less frequent ; consequently, dissolution takes place with less rapidity, the rains are more slow and gentle, the air remains more loaded with vapours and humidity, there are more fogs and cloudy days, &c., and evaporation is more tardy.

“ If evaporation be more rapid in the United States, it is because the winds are free, in consequence of the general plainness of surface, and because one of these, the north-west, which is extremely dry, prevails for two-fifths of the year.

“ In Europe, on the contrary, the grand prevailing wind is the west, which is also the most wet.

“ Finally, it is this powerful evaporation in the United States, likewise, that causes those immense dews, unknown in our temperate climates. These are so copious in summer, that the first nights of my sleeping in the desert forests of the Ohio and Wabash, I thought, when I awoke, it was raining heavily : yet, on looking to the sky, it was clear and serene ; and I presently per-

ceived, that the large drops, falling with such a noise from leaf to leaf, were nothing but the morning dew, that is to say, the evaporation of the preceding day precipitated by the coolness of the dawn. Lastly, if the winds there be more rapid, and hurricanes more frequent, than in Europe, it is not only because the tropic is less remote, but because the currents of air find no bar to check and fix them ; and if the Apalachian chain were sixteen or eighteen hundred yards high, the atmospheric system of all the western basin would be different.”

Temperature of the Western Coast, and the Pacific Ocean.

It appears from different reports, that the climate of this coast is generally temperate. Captain Cook found, that, in the month of April, vegetation was in great forwardness at Nootka Sound, situated in the latitude of 49 degrees. *Mease* remarks, that there is seldom any frost on the coast before January, and so slight, that it rarely prevents the inhabitants from navigating the sound in canoes. Captain Magee of Boston, who passed a winter at Nootka Sound, informed Mr Williamson, that he saw little snow in this region ; and the winter near the mouth of Columbia river, where the expedition of Lewis and Clarke wintered, was temperate, but rainy. This mildness may be partly ascribed

to the western winds blowing from the ocean, whereas, in the Atlantic states, they come from high mountains ; * but it is undoubtedly the effect of a variety of causes, for, as Humbolt observes, it seems to be a general law, that the western side of all great continents is warmer than the eastern.

A Meteoric Stone, which fell at Weston, in North America, the 4th December 1807, was analyzed by D. B. WARDEN, and the analysis was published in the Annales de Chimie for March 1810. A hundred parts of the stone contained

Silex	-	-	41
Sulphur	-	-	$2\frac{1}{5}$
Chromic acid		-	$2\frac{1}{3}$
Alumine	-	-	1
Magnesia	-	-	16
Lime	-	-	3
Oxyd of iron	-	-	30
Oxyd of manganese		-	$1\frac{1}{3}$
Loss	-	-	3
Total			100

List of Authors who have treated of the Climate of America.

Folney, in his View of the United States.

Jefferson, in his Notes on Virginia.

Williams, in his History of Vermont.

Rush, Dr, in his Account of the Climate of Pennsylvania.

Ellicot, in his Journal.

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Ramsay, Dr, in his Account of the Climate of South Carolina.

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Mease, Dr, in his Geological Account of the United States. 1807.

Williams, in his History of Vermont.

Webster, (Noah, Esq.) Dissertation on the supposed Change in the Temperature of Winter, in the first volume of Memoirs of the Connecticut Academy of Arts and Sciences. New-haven, 1810.

CHAPTER V.

FOREST TREES OF THE UNITED STATES. *

OAKS.—The known species of oaks, of the old and new continent, amount to seventy-four. Of this number, forty-two belong to North America, viz. sixteen to Mexico, and twenty-six to the United States. The oaks of the United States ought to be divided into two sections; the first including the species which blossom and produce ripe fruits in the course of the spring, summer, and autumn of the same year; the second section, those of which the fruit requires an interval of eighteen months to arrive at full maturity. It is worthy of remark, that the woods which furnish the species of the first section (including also the first species of the second section) are of a much better quality.

FIRST SECTION.—1. White oak, *Quercus alba*. Is found throughout the whole extent of the United States, but it abounds most to the west of the

* For this list of the Forest Trees of the United States, with their local situation, growth, and the uses to which they are applied, the author is indebted to the *North American Sylva* of F. A. Michaux, who was pleased to revise this Catalogue.

mountains in the states of Pennsylvania and Virginia. Height from 70 to 80 feet. Of all the species of oak, this is the best wood, and the most used.

2. Mossy cup oak, *Q. olivæformis*. In the Genessee country, and on the banks of the North river, above Albany. In a moist soil. Height from 50 to 60 feet. This species is not common, and its wood is not employed.

3. Over cup white oak, *Q. macrocarpa*. In the states of Kentucky and Tennessee. In a fertile soil. Height from 50 to 60 feet. The wood is of a pretty good quality, and supplies the place of the white oak, when it cannot be procured.

4. Post oak, or Box white oak, *Q. obtusiloba*. In the middle, southern, and western states. In an indifferent soil. Height from 30 to 50 feet. Wood of a good quality.

5. Over cup oak, or Water oak, *Q. lyrata*. In the low and maritime parts of the southern states, and the Floridas. In a moist soil. Height from 70 to 80 feet. Wood not employed.

6. Swamp white oak, *Q. discolor*. Throughout the whole extent of the American territory, except in the low parts of the southern states. In a moist soil. Height from 70 to 80 feet. Wood of a pretty good quality, seldom used.

7. Chesnut white oak, *Q. Prinus palustris*. In the low parts of the southern states, and Louisiana.

In moist places. A majestic tree. Height from 80 to 90 feet. The wood is good, but seldom employed.

8. Rock chesnut oak, *Q. P. monticola*. In the rugged borders of Lake Champlain, of the North river, and the Alleghany Mountains. Height from 50 to 60 feet. Wood of a good quality, reckoned the best after the white oak.

9. Yellow oak, *Q. P. acuminata*. In Pennsylvania, Virginia, and the upper parts of the southern states. Rare. Height from 50 to 60 feet. Wood pretty good.

10. Small chesnut oak, *Q. P. pumila*. In the middle and western states. It abounds near Albany and Knoxville. Height from three to six feet. Not employed. Yields great plenty of fruit.

SECOND SECTION.—11. Live oak, *Q. virens*. On the borders of the sea, from Norfolk in Virginia to New Orleans, and beyond this city. Height from 30 to 40 feet. The wood, hard, heavy, and lasting, is much used in ship-building.

12. Willow oak, *Q. phellos*. It appears near Philadelphia, and abounds in the lower parts of the southern states. In moist places. Height from 40 to 60 feet. Wood porous, and of a bad kind, seldom employed.

13. Laurel, or Jack oak, *Q. laurifolia*. In the eastern parts of Virginia and Pennsylvania. Rare

in other parts. Height from 30 to 40 feet. Wood bad, not employed.

14. Upland willow oak, *Q. cinerea*. In the lower parts of the southern states, and Floridas, in the pine barrens. Height from 10 to 20 feet. The wood of a bad quality. The bark produces a yellow colour, resembling that of the black oak.

15. Running oak, *Q. pumila*. In the southern states. In the pine barrens. Height from two to three feet. Too small to be fit for any use.

16. Bartram oak, *Q. heterophylla*. Near Philadelphia, on the borders of the Schuylkill. Height from 30 to 40 feet. The species very rare. Not employed.

17. Water oak, *Q. aquatica*. In the lower parts of the southern states, and in the Floridas. In moist places. Height from 40 to 50 feet. Wood porous, of a bad quality, not used.

18. Black Jack, or Barren's oak, *Q. ferruginea*. From New Jersey to Louisiana. In a bad soil. Height from 15 to 30 feet. Wood of a bad quality ; good only for fuel.

19. Bear oak, or Black scrub oak, *Q. banisteri*. In the northern and middle states. It abounds on the mountains, in open places. In a bad soil. Height from three to eight feet. Too small to be used. Very fruitful.

20. Barren's scrub oak, *Q. Cataebæi*. In the lower parts of the Carolinas, in Georgia, and the

Floridas. In pine barrens, and a bad soil. Height from 15 to 30 feet. Wood only fit for fuel.

21. Spanish oak, or Red oak, *Q. falcata*. Appears in New Jersey, and abounds in Virginia, the southern states, and Floridas. Height from 70 to 80 feet. The wood porous, of a bad quality, is only fit for barrels to contain dry goods. Bark excellent for tanning.

22. Black oak, *Q. tinctoria*. Throughout the whole extent of the United States, but more common in the middle states. Height from 70 to 80 feet. The wood, of a middling quality, resembles that of the preceding species, and is fit for the same purposes. The bark gives a fine yellow colour.

23. Scarlet oak, *Q. coccinea*. In the northern, middle, and upper parts of the southern states. Height from 70 to 80 feet. The wood resembles that of the former species.

24. Grey oak, *Q. ambigua*. In the northern states; also in Canada and Nova Scotia. Height from 50 to 60 feet. Wood porous, and like the above kind.

25. Pine oak, *Q. palustris*. In the middle and western states. In a moist soil. Height from 70 to 80 feet. The wood resembles the preceding species.

26. Red oak, *Q. rubra*. In the northern and middle states, also in Canada. Height from 70 to

80 feet. The wood like that of the five above mentioned species ; decaying easily, and employed, as the others, for flour barrels, for dry goods, salt meat, and molasses.

1. White or Single Spruce, *Abies alba*. Is found in the district of Maine and the northern states, also in Nova Scotia and Lower Canada. Height from 30 to 40 feet. Wood little used.

2. American silver-fir, *Abies balsamifera*. Grows in the same parts as the preceding. Never exceeds 40 feet in height. The wood, which is seldom employed, produces a resinous substance, much esteemed as a remedy in pulmonary affections.

3. Hemlock spruce, *Abies Canadensis*. Tree very common in the district of Maine, and the northern states. It is only found in the cold and mountainous parts of those towards the middle. It also grows in Lower Canada and Nova Scotia. Height from 60 to 80 feet. Direction of the fibres oblique. The wood, of a middling quality, is employed in the construction of wooden houses. The bark is generally used for tanning hides, but is inferior to that of oak, which is scarce wherever the hemlock abounds.

4. Black or Double spruce, *Abies nigra*. Is very abundant in the same places as the preceding. Height from 50 to 70 feet. A fine tree. The best kind is employed for the yards and top-masts

of vessels ; exported for this purpose to the middle and southern states.

5. Long-leaved pine, *Pinus australis*. In the low and maritime parts of the southern states, Lower Louisiana, and the Floridas. Height 70 feet. The best and most abundant species of pine of North America. Pitch, turpentine, &c.

6. Jersey pine, *Pinus inops*. In the middle states. Height from 30 to 40 feet. Wood of a bad quality.

7. Yellow pine, *Pinus mitis*. In the middle and upper parts of the southern states. Height 70 feet. Wood of a bad quality ; much employed.

8. Table Mountain pine, *Pinus pungens*. In the mountains of North Carolina. Height from 30 to 40 feet. Tree very rare. Not employed.

9. Pitch pine, *Pinus rigida*. In the northern and middle states. Height from 50 to 60 feet. Tree very branchy ; little employed.

10. Grey pine, *Pinus rupestris*. In Canada and Nova Scotia. Height 20 feet. Not used.

11. Pond pine, *Pinus serotina*. In the low parts of the southern states. Height from 30 to 40 feet. Not used.

12. White pine, *Pinus strobus*. In the northern states and mountainous regions of the United States, also in Canada. Height from 100 to 150 feet. A magnificent tree. Wood soft ; constantly employed.

13. Loblolly pine, *Pinus taeda*. In the southern states. Height 80 feet. Bad wood.

14. Red or Norway pine, *Pinus rubra*. In the state of New Hampshire and the district of Maine, also in Canada. Height from 50 to 60 feet. Wood of a good quality ; exported to England.

15. Cypress, *Cupressus disticha*. In Lower Virginia, the Carolinas, Georgia, Lower Louisiana, and Florida. Height from 70 to 80 feet ; diameter from 8 to 12. In marshy places. The wood, light, but very durable, is much employed in the construction of houses, and especially for the roofs, in the form of shingles.

16. White cedar, *Cupressus thyoides*. Grows in the maritime parts of the northern and middle states. In marshy places. Height from 50 to 70 feet. Wood odoriferous, soft, light, and of long duration ; often used for shingles.

17. Red cedar, *Juniperus Virginiana*. In all the states along the sea coast. Wood light, but very lasting ; much employed for posts and ship-building.

18. American larch, *Larix Americana*. In the northern states, rarely seen in the southern, also in Canada. Height from 60 to 70 feet. Seldom used.

19. White maple, *Acer Eriocarpum*. Throughout all the extent of the United States, but more common in the western. On the borders of rivers.

It grows to six feet in diameter, and sixty feet in height. The wood is soft, and seldom used. Sugar is extracted from the sap ; but it requires double that of the sugar maple tree to produce the same quantity of sugar.

20. Box elder, *Acer negundo*. Is found in the middle states, the upper parts of the Carolinas, but proportionally more abundant in the western country. Height from 20 to 50 feet. The wood, of a very fine grain, with red veins near the heart, is little used.

21. Black sugar maple, *Acer nigrum*. In the upper parts of the middle states, but more common in the western. Height from 50 to 70 feet. The grain of this wood is not so fine as that of the real sugar maple tree. The sap furnishes sugar.

22. Red flowering maple, *Acer rubrum*. In great abundance in the Atlantic states. In marshy places. Height from 50 to 70 feet. Wood soft ; seldom used.

23. Sugar maple, *Acer saccharinum*. In great plenty in the northern and middle states ; it also grows in Canada and Nova Scotia. The wood, very strong, and of a fine texture, is not employed in building houses, but is excellent for fuel. A great quantity of sugar is made from the sap. Height from 60 to 80 feet. It grows in fertile soil.

24. Moose wood, *Acer striatum*. Very common

in the same parts as the sugar maple tree. Height from five to fifteen feet. Wood white, soft ; not used.

25. Bitter nut hickery, *Juglans amara*. Throughout the whole extent of the United States. In cool and moist grounds. Height from 70 to 80 feet. Wood elastic, and good for fuel.

26. Water bitter nut hickery, *Juglans aquatica*. In the southern states and Lower Louisiana. In marshy lands. Height 60 feet. Wood not used.

27. Bitter nut, *Juglans cathartica*. Throughout the whole extent of the United States, except along the sea coast of the southern parts. In a good soil. Height 80 feet. The wood, light, but durable, is little used.

28. Thick shell bark hickery, *Juglans laciniosa*. In the western states. In good lands. Height from 70 to 80 feet. The wood, strong and elastic, is excellent for fuel.

29. Nutmeg hickery, *Juglans myristicæformis*. Abundant in Lower Louisiana, but rare in the southern states. Height from 60 to 80 feet.

30. Black walnut, *Juglans nigra*. In the middle and the western states, and in Upper Louisiana. In fertile lands. Height 90 feet. Wood employed for furniture and ship-building.

31. Pacane nut, *Juglans olivæformis*. In Upper and Lower Louisiana. Height 70 feet. Fruit eaten, and found to be agreeable.

32. Pignut hickery, *Juglans porcina*. Throughout the whole extent of the territory east of the Connecticut river. In good lands. Height 80 feet. Wood coriaceous ; preferred for fuel.

33. Shell bark hickery, *Juglans squamosa*. In the northern, middle, and western states. In good soil. Height 90 feet. Wood elastic, and excellent for fuel.

34. Mockernut, *Juglans tomentosa*. In the same parts as the preceding, but in lands less fertile. Height 60 feet. Wood heavy, strong, and coriaceous.

35. Black birch, *Betula lenta*. Proportionally more abundant in the middle states. Height from 60 to 80 feet. The wood is hard, of a very fine texture, and rose colour ; often employed for furniture. Bark very odorous.

36. Yellow birch, *Betula lutea*. Abounds in the northern states, also in Canada. Height from 40 to 60 feet. In good soil. Its whole appearance is very like that of the preceding species. Excellent for fuel.

37. Canoe birch, *Betula papyracea*. Towards the northern extremity of the United States, also in Nova Scotia and Canada. In good soil. Height 80 feet. The wood, of a good quality, although inferior to that of the two former species, is little used, except for fuel. Canoes made of the bark.

38. White birch, *Betula populifolia*. In the

northern states, but more abundant in the middle. Usually in a poor soil. Height from 10 to 30 feet.

39. Red birch, *Betula rubra*. In the middle and southern states. Height from 70 to 80 feet. Wood soft, with red veins. Grows in moist places, and on the borders of rivers.

40. White ash, *Fraxinus Americana*. In the northern and middle states. Height 80 feet. Wood much used by coachmakers, and particularly valued for oars.

41. Blue ash, *Fraxinus quadrangulata*. In the western states, where, on account of the quality of its wood, it is preferred to the other species. Height 70 feet.

42. Carolinian ash, *Fraxinus platycarpa*. In the southern states, Louisiana, and Florida. Height from 25 to 30 feet. Not used.

43. Black ash, *Fraxinus sambucifolia*. In the middle states, but more abundant in the northern. In marshy places. The wood, comparatively more elastic than that of the other kinds of ash, is often used for hoops.

44. Red ash, *Fraxinus tomentosa*. Throughout almost all the extent of the United States, but more common in those towards the middle. Height 60 feet. Wood of a good quality; much employed by cartwrights and wheelwrights.

45. Green ash, *Fraxinus viridis*. In the mid-

dle and western states. Height from 20 to 30 feet. Never used.

46. Persimon, *Diospiros Virginiana*. In the middle, western, and southern states. Height from 60 to 70 feet. Wood hard and elastic ; little used. Fruit eatable.

47. Red beech, *Fagus ferruginea*. In the northern states, also in Canada. From 60 to 70 feet high. The wood, resembling that of the European species, is fit for the same uses, but comparatively less employed.

48. White beech, *Fagus sylvestris*. In the most fertile lands of the middle, western, and southern states. Height from 80 to 90 feet. Wood inferior in quality to the preceding species ; bark sometimes used for tanning.

49. Water locust, *Gleditsia monosperma*. On the moist grounds of the southern states, Louisiana, and Florida. Height 70 feet. Wood not used.

50. Honey locust, *Gleditsia triacanthos*. In the middle and western states ; but especially in the latter. Height 80 feet. Wood hard, porous ; not employed.

51. Iron wood, *Carpinus ostrya*. Throughout the whole extent of the United States, also in Canada and Nova Scotia. Height from 10 to 25 feet. Wood very strong.

52. American hornbeam, *Carpinus Americana*.

Throughout the whole extent of the United States. In moist places. Height from 10 to 25 feet. Wood white, and of a fine texture ; not employed.

53. Hackberry, *Celtis crassifolia*. Not common in the middle states, but abundant in the western. Height 70 feet. Wood of a bad quality.

54. American nettle tree, *Celtis occidentalis*. In the middle and southern states. Tree thinly scattered throughout the forests. Wood not used.

55. Red cherry, *Cerasus borealis*. In the northern extremity of the United States, also in Canada and Nova Scotia. Height 25 feet. Fruit small, red, and very sour.

56. Wild Orange, *Cerasus Caroliniana*. In the southern states, Louisiana, and the Floridas. Height from 40 to 50 feet. This magnificent tree is an evergreen.

57. Wild cherry, *Cerasus Virginiana*. In the middle and western states, Upper Carolina, and Georgia. Height from 60 to 80 feet. The wood of this fine tree is hard, of a fine texture, and much employed for furniture.

58. Crab apple, *Malus coronaria*. Very abundant throughout all the United States ; but principally in the glades of Pennsylvania. The fruit employed for preserves, and sometimes to make cider.

59. June berry, *Mespilus arborea*. In all the

extent of the United States. Height 30 feet. Fruit small and eatable.

60. Red mulberry, *Morus rubra*. In all the extent of the United States ; more abundant in the western parts. Height from 70 to 80 feet. Wood very lasting, employed in ship-building.

61. Tupelo, *Nyssa aquatica*. Throughout all the extent of the United States. Wood rather hard ; principally used for naves.

62. Sour Tupelo, *Nyssa capitata*. In the state of Georgia, Lower Louisiana, and the Floridas. Height from 25 to 40 feet. Wood soft ; not used.

63. Large Tupelo, *Nyssa grandidentata*. In the southern states, Lower Louisiana, and the Floridas. Height 80 feet. Wood very soft ; not used.

64. Black gum, *Nyssa sylvatica*. In the middle and western States. Height 60 feet. Wood little used.

65. Devil wood, *Olea Americana*. In the maritime parts of the southern states, Lower Louisiana, and the Floridas. Wood very hard ; not employed.

66. Buck eye, *Pavia lutea*. In the mountainous parts of the middle states ; but more common in the southern. Height 80 feet. Wood very soft ; not employed.

67. Georgia bark, *Pinckneya pubens*. In the

state of Georgia. Height 25 feet. Bark very bitter and febrifuge.

68. Planer tree, *Planera ulmifolia*. In the southern and western states. Height from 25 to 30 feet. Wood not employed.

69. Carolinian poplar, *Populus angulata*. In the southern states, Louisiana, and the Floridas. Height from 80 to 100 feet ; not employed.

70. Cotton tree, *Populus argentea*. In the middle and western states. Height 70 feet. Wood not useful.

71. Balsam poplar, *Populus balsamifera*. In Canada. Height from 40 to 30 feet. Wood not used.

72. Heart leaved, *Populus candicans*. In the northern states. Height 60 feet. Wood not employed.

73. Cotton wood, *Populus Canadensis*. In the western states, also in Canada. Height 70 feet. Wood soft ; not employed.

74. American large Aspen, *Populus grandidentata*. In the northern and middle states, also found in Canada. Height 30 feet ; not useful.

75. American Aspen, *Populus tremuloides*. Grows in the same places as the preceding species. Height 30 feet ; not employed.

76. American black poplar, *Populus Hudsonica*. In Canada. Height 30 feet ; not used.

77. Virginian poplar, *Populus monilifera*. In

the western states, and on the borders of the Mississippi river. Height 60 feet.

78. Red bay, *Laurus Caroliniensis*. In the maritime parts of the southern states, Lower Louisiana, and Florida. Height from 60 to 70 feet. The wood, of a rose colour, and of a very fine texture, is employed by cabinetmakers, and sometimes in ship-building.

79. Sassafras, *Laurus sassafras*. In all the states south of New Hampshire. Height from 60 to 70 feet. Wood soft, but durable ; seldom employed.

80. Sweet gum, *Liquidambar styraciflua*. In the same parts as the preceding. Height from 70 to 80 feet. Wood of a very fine texture ; employed for houses.

81. Poplar, or tulip tree, *Lyriodendrum tulipifera*. In all the states south of New Hampshire ; is very abundant especially in the western parts. This beautiful tree, 120 feet high, of a light bay colour, and of a fine texture, is employed for various uses.

82. Cucumber tree, *Magnolia acuminata*. In the middle states, and all the mountainous region of the Alleghany ridge, to the east of the Hudson river, is more abundant in the mountains of the Carolinas and of Georgia. Wood soft ; not used. The fruit, infused in brandy, on account of their

bitterness, are used as a preventive against the autumnal fevers.

83. Long-leaved cucumber tree, *Magnolia auriculata*. In the high mountains of the Carolinas and Georgia. Height from 40 to 50 feet. Wood very soft ; not used.

84. Heart-leaved cucumber tree, *Magnolia cordata*. In the mountainous parts of the southern states. This tree is very like the cucumber tree, from which it differs only in its smaller size and yellow flowers.

85. Small magnolia, or white bay, *Magnolia glauca*. In all the maritime parts of the United States from Cape Ann, but more abundant towards the south. Height from 10 to 40 feet. Wood soft ; not employed.

86. Large laurel, *Magnolia grandiflora*. In all the low lands of the southern states, Louisiana, and the Floridas. This magnificent tree is 80 feet high ; wood soft, and seldom employed.

87. Large leaved umbrella tree, *Magnolia macrophylla*. In Tennessee and the southern states. Height 30 feet. Tree remarkable for the extent of its foliage, and the largeness of its flowers. Wood seldom used.

88. Umbrella tree, *Magnolia tripetala*. In all the states to the south of the Susquehannah river. Height 25 feet. Wood very soft ; not used.

89. Mountain laurel, *Kalmia latifolia*. In all

the middle states, and in the mountainous surface east of the Hudson river. Height from 15 to 18 feet.

90. Dwarf rose bay, *Rhododendrum maximum*. In the mountainous parts of the middle and southern states. Height from 15 to 20 feet.

91. Locust, *Robinia-pseudo acacia*. In the middle and western states. Height from 70 to 80 feet. This wood, which is very hard, is employed for posts and ship-building.

92. Rose-flowering locust, *Robinia viscosa*. In the mountainous parts of the southern states. Height 40 feet; not used.

93. Yellow wood, *Virgilia lutea*. In the western states. Height 40 feet. The wood and roots produce a yellow dye.

94. Champlain willow, *Salix ligustrina*. On the borders of the rivers of the northern and middle states. Height from 18 to 20 feet; not employed.

95. Shining willow, *Salix lucida*. In the northern and middle states. Height from 10 to 15 feet. Wood not employed.

96. Black willow, *Salix nigra*. Throughout the whole extent of the United States. Wood not used.

97. American arbor vitæ, *Thuja occidentalis*. In the northern states, also in Canada. Height from 40 to 50 feet. Wood light, durable; often employed.

98. Bass wood, *Tilia Americana*. Throughout the whole extent of the United States, but very abundant in the upper parts of the state of New York. Height from 70 to 80 feet. Wood seldom used.

99. White lime, *Tilia alba*. In the western states. Height from 40 to 50 feet. Wood soft ; not used.

100. Downy lime tree, *Tilia pubescens*. In the southern and western states. Height 50 feet. Wood not employed.

101. White elm, *Ulmus Americana*. Throughout all the territory of the United States, but more common towards the north. It is also found in Canada. Height 80 feet. The wood of this fine tree is often employed.

102. Wahoo, *Ulmus alata*. In the southern states, and the Floridas. Height 40 feet. Seldom employed.

103. Red elm, *Ulmus rubra*. Throughout the whole extent of the United States. Height 60 feet. Wood of great use.

104. Ohio buck-eye, *Æsculus Ohioensis*. On the borders of the rivers in the western states. Height from 5 to 30 feet. Wood soft ; a poisonous odour exhales from the bark.

105. Black alder, *Alnus glauca*. In the northern states, also found in Canada. Height from 5 to 25 feet. The bark produces a black dye.

106. Common alder, *Alnus serrulata*. Throughout all the territory of North America to the east of the Mississippi river. Height from 5 to 15 feet.

107. Sorrel tree, *Andromeda arborea*. In the mountainous parts of Virginia, the Carolinas, and Georgia. Height from 5 to 40 feet. The acid foliage is employed with copperas to obtain a black dye. Wood soft; not used.

108. Papaw, *Annona triloba*. In the middle states, and also on the borders of the rivers which traverse the western parts where it is more abundant. Height from 5 to 25 feet. Wood very soft; the bark emits an offensive smell; the fruit eaten when ripe.

109. Button wood, *Platanus occidentalis*. Throughout the whole extent of the United States, but proportionally more abundant in the middle and western. Height from 90 to 100 feet. Wood not used.

110. Loblolly bay, *Gordonia lasyanthus*. In the southern states. Height 70 feet. The tree is very fine; but the wood is neither durable nor useful. The bark, though not so valuable as that of oak, is employed for tanning.

111. Franklinia, *Gordonia pubescens*. In Georgia. Height 30 feet. Tree with beautiful flowers. Wood not employed.

112. Coffee tree, *Gymnocladus Canadensis*. In the western states, also in Canada. Height from

70 to 80 feet. Wood very hard, of a fine texture, seldom employed. Grain sometimes used as a substitute for coffee.

113. Sweet leaf, *Hopea tinctoria*. In the southern states. Height from 5 to 15 feet. The leaves produce a lasting yellow dye.

114. American holly, *Ilex opaca*. In the middle, western, and southern states. Height 40 feet. Wood hard; seldom employed.

115. Cabbage tree, *Chamærops palmetto*. In the southern states, and the Floridas, immediately on the sea coast. Height from 40 to 50 feet. The wood of a reticular and spongy texture, is preferred for the construction of wharfs.

116. Dog wood, *Cornus Florida*. In all the states south of the Connecticut river. Height 20 feet. Wood hard, of a fine texture, and seldom employed. Its blossoms, in the spring, are the ornament of the forests.

117. Chincapin, *Castanea pumila*. In the middle and southern states, also in the Floridas. Height from 10 to 40 feet. Wood durable.

118. American chesnut, *Castanea vesca*. In the northern and middle states, and Upper Carolina. Height from 60 to 80 feet. Wood very lasting; excellent for fences.

CHAPTER SIXTH.

QUADRUPEDS OF THE UNITED STATES.

1. BAT.—New York bat, *Vespertilio noveberacensis*, Gmel. ; described by Pennant and by Shaw, is two inches and a half from the nose to the tail ; the tail one eight-tenth inches ; the extent of its wings ten one-half inches ; the head shaped like that of a mouse ; the top of the nose a little bifid ; the ear short, broad, and round ; the tail long, and inclosed in a membrane, which is of a conical shape ; and there is a white spot at the base of each wing.

2. Carolina bat, *Rhinopome* of Carolina, described by Geoffroy, has ten upper incisive teeth, and four under, two canine in each jaw, four molar, or grinders above, and five below, on each side ; nose long, conical, and of a square form at the extremity ; ears large, tail long, and connected with the membrane at the insertion only. It differs in many respects from the *Rhinopome microphyllæ* described by the same naturalist in the great work upon Egypt.

3. Red bat, (described by Wilson in his Ornithology, Vol. VI., pl. 50, fig. 4.) seen in Pennsyl-

vania suspended to the branches of trees in the forest, and very numerous near Carlyle. The tail about the length of the body; the membrane twelve inches broad; ears half an inch in length; eyes very small; six incisive inferior teeth; no crest; the general colour a reddish grey; the membrane brownish; the nose encircled with white. It is devoured by the *Strix flammea* owl. Mr Des Marets has found, from this description, a great resemblance between the *Vespertilio* and the *Pipistrella* of Europe.

4. The Brown mole, *Talpa fusca* of Shaw; brown mole, with white feet and tail; the fore feet very broad. *Sorex aquaticus* of Linnæus. Scalops of Cuvier.

5. The Red mole of Seba, *Talpa rubra Americana*. *Talpa rufa* of Shaw; and which doubtless belongs to the genus *chrysochloris* of Lacepede according to Cuvier. Rufous mole, with short tail, fore feet tridactylous; hinder tetradactylous.

6. Radiated mole. *Talpa radiata*. *Sorex cristatus* of Linnæus. Black mole, with white feet, and nose radiated with papillæ; belonging essentially to the genus *Talpa*, or mole.* The long

* Purple mole of Virginia, first described by Seba under the name of *Talpa Virginianus niger*, and by Shaw under that of *Talpe purpurascens*. Black mole, with a gloss of purple, and white tail, feet pentadactylous.

tailed mole, *Talpa longicauda*, Shaw. Brown mole, with tail of middling length, and pentadactylous feet ; the hinder ones scaly. The length from the nose to the tail four one-half inches nearly ; the tail two inches.

7. Black Bear, *Ursus Americanus*, Pallas, Spic. Zool. 14, p. 6, 26. Black bear, with ferruginous cheeks and throat, and sometimes wholly ferruginous ; resembles the black bear of Europe, except in the forehead, which is flat. His legs are short ; his form clumsy, and generally very fat. He feeds on acorns, nuts, berries, grapes, on sweet-apples, and the fruit of the date plum tree, of which he is fond, as well as of maize in an unripe state. He is not carnivorous, and discovers a timid disposition except when wounded, in which case he will attack an armed man. The female, in defence of her young, will also turn furiously upon her pursuer. In the state of New York there are two kinds of Black Bear, where they are distinguished by the name of *long-legged* and *short-legged bear*. The latter is stouter, heavier, and fatter than the former, the largest in the state of New York weighing 400 pounds ; its motion is also slower, and it is of a shyer disposition. The Black Bear is an inhabitant of the continent, from the province of Maine to the Pacific Ocean. It was seen by Lewis and Clarke on the Rocky Mountains, and on the borders of the Columbia Plains.

8. Brown Bear, known also by the name of Ranging Bear ; resembles the former in the general shape, but it is not so fat, and the body and legs are longer. It differs also, in being sometimes carnivorous, and much more ferocious when hungry, or wounded. In winter it migrates towards the south, and, like the former, retires at the first appearance of snow, to the cavity of some rock, or hollow tree, where it remains till the close of winter, in a state of seeming inanimation.

9. Grizzly Bear. This bear, the largest and most ferocious of his kind, inhabits the upper parts of the Missouri country, the covered borders of the Yellow and the Little Missouri rivers, and the chain of Rocky Mountains. So great in his muscular strength, that he destroys with ease the largest buffalo. His weight is from 800 to 900 pounds. The fur is employed for muffs and tippetts, and the skin brings from twenty to fifty dollars. This bear is of a greyish or grizzly colour, sometimes brownish and whitish. It is much larger, stronger, and swifter than the largest Brown Bear. One shot by the party of Lewis and Clarke weighed between 500 and 600 pounds ; its length from the nose to the extremity of the hind feet was eight feet seven inches and a half ; round the breast five feet ten inches ; round the neck three feet eleven inches ; round the middle of the fore leg one foot eleven inches ; talons four $\frac{5}{8}$ inches, five in each foot.

On the back of the neck there is a large tuft of hair ; the tail is shorter than that of the common bear ; the hair is longer, finer, and more abundant ; the testicles are pendent from the belly, in separate pouches, two or three inches asunder. *

Among the American hunters and travellers it has been long a general opinion, that the young were produced in a shapeless state, and licked by the tongue of the mother into form and life ; and Lawson, enthusiastically fond of natural history, remarks, “ that no man, either Christian or Indian, “ had ever killed a she bear with young ;” but since his time, Mr Bingham of Salisbury, in the state of Connecticut, in December 1799, killed the female in her den, where he found three young ones, of regular shape, and as large as a kitten of two months old. In February 1818, the American Black Bear of the Menagerie of the Garden of Plants at Paris, brought forth a young one, about the size of a rat, and of a grey colour. It is now known that the female seeks for parturition the most retired and inaccessible places, apart from the male, and that the period of gestation is about six months, which accounts for the ignorance that

* The yellow bear of Carolina, in Catton's figures of quadrupeds, referred to by Shaw, is unknown in the United States. The figure is said to be from a living one kept in the Tower, the colour of which was no doubt accidental.

has prevailed on this subject. For some time after the period of the first settlements in the United States, the bears were seen to nourish themselves on the herring which ascended the rivers in spring.* Both the Black and Brown Bear, when taken young, may be so tamed as to become obedient to the voice or sign of its keeper, without showing any surly disposition, except when feeding. The flesh of the bear is very sweet and nourishing, and the bacon, when well cured, is preferred to that of the hog. The young cub, says Lawson, is a dish for the greatest epicure living. The fat, which is remarkably white, is employed in frying fish. The oil is found very useful for sprains and rheumatic affections. The skin and fur are used for various purposes,—for muffs, caps, and hats. Hence the bear, formerly very numerous, is now rare. The havoc which he made of the Indian corn in the northern and middle states, and of the sweet potatoe in the southern, was another motive for his destruction. He destroys young pigs, and, when hungry, will attack children. In the state of New Hampshire two boys of eight years of age were devoured by them;—the one near Suncook river, in 1731; the other at Moultonborough, in 1783.

* Lawson, p. 116.

10. Racoon, *Ursus lotor*, Lin. ; *Procyon*, Storr and Cuvier ; *Mapach* of Mexico. Bear with annulated tail, and black transverse band across the eyes. In shape and size it resembles the fox, but the body is larger, and the legs are thicker and shorter. The muzzle and teeth are like those of the dog, but the head seems like that of the fox ; the ears roundish and shorter. The tail is long and round ; feet plantigrade ; toes five, long, slender, and armed with sharp claws ; eyes large. It is covered with long, thick, and soft hair, of a dark-grey colour, except the tail, which is marked with alternate black and white rings. It is a very active animal, and its sharp claws enable it to climb trees with facility, where, in the night, it preys on birds. It also feeds on acorns, unripe fruit, and Indian corn, employing for this purpose the fore feet, in the manner of hands. Lawson relates, that those which formerly lived on the salt water in Carolina, fed upon oysters, which they nimbly snatched when the shell opened ; but that sometimes the paw was caught, and held till the return of the tide, in which the animal, though it swims well, was sometimes drowned. His art in catching crabs is still more extraordinary. Standing on the borders of the waters where this shell-fish abounds, he keeps the end of his tail floating on the surface, which the crab seizes, and he then leaps forward with his prey, and destroys it in a very artful man-

ner. In a tame state it preserves its habit of prowling about in the night. One brought to France from Virginia, on board the Constitution frigate, rummaged every corner of the ward-room during the night, and destroyed, in his cage, a fine young mocking-bird. The flesh is said to be good; the fur is coarse, but employed in the manufacture of hats. The skin is more valued by the Indians than that of the beaver, on account of the bushy tail, which is preserved and worn in the form of a sash. The oil of the fat is said to be good in *sciatica*. This animal is found in all the country from Vermont to Georgia; and was seen by the American travellers, Lewis and Clarke, in great numbers, in the woods near the coast of the Pacific Ocean.

11. The Kinkajou, or Potto, Cuvier; *Viverra caudivoluta*, Lin.; *Cercoleptes* of Illiger. Is said to be an inhabitant of the northern parts of New Hampshire; about the size of a common domestic cat, and of a dun colour. Perhaps it is a different animal, as the tail is long and tapering, and employed in climbing, or suspending itself on the branches of trees in pursuit of its prey. It is also said to wage perpetual war with the fox, and to feign death, for the purpose of leaping on the necks of animals.

12. Wolverene, *Ursus luscus*, Lin. This animal, which is known in Canada by the name of

Carcajou, and the *Beaver Eater*, is of a clumsy appearance, about a foot and a half high ; tail six or seven inches, and bushy ; the legs short ; the feet and paws large and long ; hinder feet plantigrade. The colour of the upper part of the body and sides is of a brown chesnut ; flanks marked with a band ; the belly darker ; the back and tail darker ; the head a sallow grey. It was first described and figured by Edwards, in his *Natural History of Birds*, (2d Vol. p. 103, of the London edition.) By Shaw it is considered as a variety of the Glutton, *Ursus gulo*, or rufous brown bear of the northern parts. The one seen by Linnæus had lost an eye, and from this incidental circumstance it received the name of *Luscus*. It is seen in all the uncultivated northern parts of the United States, where it is well known by its thievish habits. It shows great cunning in finding out the hoards of provisions of the Indians, and in stealing the beaver from the trap of the hunter. When the deer and other animals retire to the shade of rocks and trees, he leaps upon their necks, and destroys them by tearing the jugular vein. When the Indians are absent on their hunting parties, he sometimes enters and plunders their cabins.

13. American Badger, or *Carcajou* of the French, known in Pennsylvania and other parts by the name of *Ground Hog*. Pale yellowish grey bear, with the throat white, the belly of a blackish

brown, and the sides of the head striped with black. *Ursus Labradorius*, Lin. Sys. Nat. Gmel. p. 102. It is smaller than the common European badger, but so like in appearance, that it might pass for a variety only.

14. The Martin, *Mustela Vison*, Gmel. resembling the common weasel in form, but larger, being from eighteen to twenty inches in length from the muzzle to the tail; the tail ten inches, and weighs about five pounds. The ears short, broad, and round; the tail covered with long hair; the colour varying from a chesnut, or dark brown tinged with dirty yellow. It inhabits the northern states, lives in the forests, and climbs trees in pursuit of its prey. The female produces from three to six at a time. The flesh is eaten, but not esteemed. The fur is soft and valuable. In New England it is also known by the name of *Sable*, and by the Indians is called Wappanaugh.*

15. The Fisher Weasel, or Pekan, *Mustela Canadensis*, which sometimes pursues its prey into the water, resembles the martin in shape, but is longer, being from twenty to twenty-four inches in length, from the muzzle to the tail; the tail ten or twelve inches, and twelve round the body; the fore legs

* There is a variety of this species, called the Pine Martin, from the circumstance of its living in the pine woods. It is of a dark yellowish colour, with yellow throat and breast.

four inches and a half; the hinder six; ears short and round; colour of the body dark, with a white pectoral spot; head, neck, and shoulders, a dark grey. Inhabits all the northern states.

16. The Mink, or Minx, a kind of martin, *Mustela lutreola* of Pallas, is a small otter, not exceeding twenty inches in length; body slender; legs short; toes equal in length; feet hairy, palmated; of a blackish tawny colour; sometimes marked with a white spot under the throat. A musky odour exhales from the body. When full grown it weighs about four pounds and a half; the female produces three or four at a birth. It burrows near water, in which it pursues its prey, devouring fish, water-fowl, rats, mice, insects, muskels, and the eggs of the tortoise. In the night it ventures to the farm-houses, in search of poultry, and, like the fox, only sucks their blood. Lawson mentions, that one night he slept on the bank of a river, with his head on the sail of a canoe, in which was folded some wild geese he had killed, one of which a minx had mostly eaten, after having cut through several folds of the sail. Both these species of otter are seen throughout the whole of the American continent, as far as the woody country on the Pacific Ocean. They are easily domesticated. Kalm saw otters as tame as dogs, following their masters, jumping into the water, and catching fish. The fur is valuable. According to Law-

son, some from the westward of Carolina are of a white colour, inclining to yellow. It is a native of Sweden, and is described in the Memoirs of the Academy of Stockholm of 1735.

17. The Weasel, *Mustela vulgaris*, is about twelve inches in length, with a slender round body, weighing about a pound ; the legs short ; the claws short ; the colour brown, or yellowish, except the breast, which is white. The female has from three to five at a litter. It often destroys the domestic fowls, also striped squirrels, rats, and mice. May not the ermine of summer be confounded with the weasel, which, in that season, so resemble each other, that they do not differ except in the tail, which in the former is always black ?

18. Ermine, or Stoat, *Mustela erminea*, of a beautiful white, sometimes of a mouse or brown colour on the back, with the tip of the tail black. The body ten inches in length ; tail five and a half ; the largest weigh fourteen ounces ; the fur is fine and delicate. It has a very quick motion, and is very shy. It lives among the roots of trees, generally near rivulets, and feeds on small animals. It is seen only in the states of Vermont and New Hampshire. The same species is common in Siberia. *

* The Sable Weasel, *Mustela Zibellina*, Gmel. common in Kamschatka, is said to be an inhabitant of the northern parts

19. Skunk, or Pole Cat, *Viverra putorius*, Lin.; called by the Canadian French *Bête puante*, (stinking beast,) *Enfant du Diable*, (child of the Devil.) Is about eighteen inches from the muzzle to the insertion of the tail, which is long and bushy, like that of the fox. The colour dark, with irregular whitish spots on the head, neck, and back. The fur is soft and glossy. One caught in Vermont weighed seven pounds and a half. It seeks its food in the night, and seldom ventures out of its burrow or thicket during the day. It is fond of young poultry and eggs, and sometimes creeps under farm houses in pursuit of this prey. The female produces five or six at a time. When closely pursued by man or dogs, it emits a fluid of the most intolerable odour, which, if thrown against the eyes, creates pain and inflammation; and clothes preserve its offensive smell even after immersion in an alkaline solution. “I knew a person at Kingston, in the state of New York,” says Dr Mitchell, “who, in expelling this animal from his cellar, received a full discharge of this fluid on the breast and neck, which occasioned a fever that continued for several days. So vola-

of the United States. The colour a darkish yellow, with a grey throat and white snout. It resembles the martin, but has a longer head and ears.

“ tile is this effluvia, that it spreads through the
 “ air to the distance of half a mile. It is secreted
 “ in two sacs near the abdomen, each capable of
 “ containing half an ounce ; and, by a wonderful
 “ muscular force, is ejected to the distance of fif-
 “ teen or sixteen feet. This liquor is a powerful
 “ antispasmodic. The fat of the animal is used as
 “ an emollient, and the flesh is said to be agree-
 “ able and nutritive.” *

20. Land Otter, American, *Mustela lutra Bra-
 ziliensis*, the Saricovienne of different authors.
 Resembles the beaver in the form, snout, and eyes.
 When full grown, it is four or five feet in length.
 Legs short ; feet broad and muscular, with a mem-
 brane which enables it to swim with ease. Tail
 tapering to a point. The colour a dark brown, ap-
 proaching to black. Some of the largest weigh
 thirty pounds. The female brings forth in the
 month of March, and has three or four at a time.
 It has its nest on the bank of the lake or river,
 and, when alarmed, sinks into the water. It is
 an active, fierce, and voracious animal. It feeds
 on fish, frogs, and small aquatic animals. The flesh
 is eaten by the Indians, but is very disagreeable to
 the whites.

21. Sea Otter ; in French, *Loutre de mer* ;

* Letter from Dr Mitchell to Dr Post, written in 1788,
 and inserted in the Medical Repository.

Mustela lutris, or *Marina*, Lin. Is three times larger than that of Europe. Body long ; tail short, being about one-third of the length of the body ; hinder feet very short ; fur blackish, with a velvet tint ; head often marked with white spots.

ANIMALS OF THE DOG FAMILY ; *Canis*, Lin.

22. Wolf, *Canis lupus*, Lin. Of this animal there is a great variety with respect to size and colour, though all have nearly the same shape. The dimensions of the largest are nearly as follows : From the muzzle to the insertion of the tail, five feet ; the body nearly three feet in circumference ; the fore legs eighteen inches long ; the hinder fifteen ; the tail eighteen. One killed in Vermont weighed ninety-two pounds. In form it resembles the dog ; but the head is longer, the nose more pointed, the ears sharp and erect, the neck short and thick, the teeth strong and sharp, the tail long and bushy, the eyes fierce and sparkling. In the northern states the colour is generally fallow, or light bay, with a dark stripe along the back, and yellow streaks about the ears and legs. Some in the southern states are quite black. This appears to resemble the *Canis Lycaon* of Europe. In the Missouri country there are several new species or varieties. One of a large size and brown colour was seen on the mountains which cross the Columbia country, between the great falls and the ra-

pids ; another, on the borders of the Pacific Ocean, burrows like the fox. Two others, much smaller, inhabit the woodlands, and are sometimes seen on the plains. The female brings forth from the first of May till the first of July, after three months and a half of gestation. In the state of Vermont nine young whelps have been found in a den. Throughout the United States, they are everywhere a fierce and carnivorous animal, associating only for the purpose of destruction ; attacking deer, foxes, rabbits, and stealing into the sheep-folds at night, to glut their voracious appetite. In Pennsylvania, they committed great ravages among the sheep, hogs, and small cattle of the early colonists, whom they disturbed in the night by their dismal howlings. In New Hampshire, a bounty of twenty dollars is paid for each animal of this species destroyed. He is taken by means of *log-traps*, into which he is decoyed by a bait. In Carolina, they were formerly seen to hunt the deer in droves, like a pack of hounds, during the night, making a hideous and frightful noise ; and Lawson says, that, when prey was scarce, they were seen to go to a swamp, and eat a quantity of mud, which they disgorged on finding flesh. In the Missouri country, where the bison affords them a plentiful subsistence, they are seen in great numbers. Sometimes they gorge themselves with this food in such a manner, that they are unable to escape from the

hunter. In the pursuit of the red deer, they are said to discover much cunning and address, by surrounding this animal in such a manner as to drive it to a precipice, down which it rushes to destruction, and becomes their prey. In the Missouri country, when the Indians are killing the buffalo for their winter provisions, the wolves appear at a small distance in flocks, waiting for the refuse of the carcasses. The fur is employed for muffs, which are warm and agreeable. The skin, in a tanned state, makes good summer shoes ; and, in the form of parchment, is excellent for drum heads. There is every reason to believe, that the Indians, before their acquaintance with the Europeans, tamed the wolf for the purpose of hunting ; and the present race of Indian dogs are evidently the offspring of the wolf and European domestic dog. The author of the work entitled “ Wonder-Working Providence,” speaking of the early settlements in Long Island in 1640, says, that there are many Indians on the greatest part of this island, who, at the first settling of the English there, did much harm among their cattle with the multitude of dogs they kept, which ordinarily are young wolves, brought up tame, continuing of a ravenous nature.* It is remarked by the traveller Kalm, that there are examples of

* P. 141 of the London edition of 1654.

wolves being rendered as tame as dogs ; and the form of the present Indian dogs—the head, ears, general appearance, and qualities—indicate an offspring of the wolf and the dog. Lawson, who had an excellent opportunity of studying this animal in Carolina, was of opinion, “ that it is the dog of the woods.” The Indians had no other curs before the Christians came amongst them. When wild, they are neither so large nor so fierce as the European wolf. *

Foxes.—Of this animal there are several kinds in the United States, known by names which have been chiefly derived from their colour. The Red, Grey, Cross, Three-coloured, and Black Fox.

23. The Red Fox is of a dull reddish-brown colour. When full grown, it weighs about twenty pounds.

24. The Grey Fox, *Canis Virginianus*, Lin. is of a reddish colour, with a cast of red about the ears ; the tail a darkish red, except the top, which is whitish. It lives in hollow trees, and sometimes burrows. It is very common in the Carolinas and southern states, but rare in the northern. It resembles the European fox in size and shape, of which Cuvier thinks it may be a variety. It is described by Desmarets in the sixth volume of

* P. 119 of his Natural History of Carolina.

the Dictionary of Natural History, published at Paris.

25. The Cross Fox, *Canis decussatus*, Schreber, resembling the former in shape and size, is of a dark reddish yellow colour above, inclining to a silver grey on the back, along which runs a black line or stroke, crossed over the shoulders by another of the same colour ; the belly blackish, and striped with red. It measures two feet from the snout to the tail ; the tail is eighteen inches long, and four in circumference ; the limbs nine inches long ; the body twenty in circumference.

26. The Three-Coloured Fox, *Canis cinereo-argenteus*, Schreber, is of an ash-grey colour above, white below, the sides of the neck and flanks a pale yellow.

27. The Brant Fox, *Canis alopex*, Gmel. ; Charbonnier, has the tip of the tail black. May not this be a variety of the common fox ?

28. The Black Fox, or Silver Fox, *Canis argentatus*, Geoffroy, is of a glossy black colour, except the ears, which are fulvous within, and the tail ash-coloured, and whitish at the extremity. The fur, which is thick and soft, is mixed with hair twice its length. The tip, when examined closely, appears whitish. The largest weighs twenty pounds. It is remarked by Cuvier, that this animal has been confounded by Gmelin with the black wolf, under the name of *Canis Lycaon*.

The red and grey fox are common in the north-eastern states, in the woods, not far from population. They are taken by means of steel traps, and are sometimes dug out of their burrows. The former was seen by Lewis and Clarke in the Missouri country; the latter between the Rocky Mountains and the Pacific Ocean; also the black fox, the common red fox, and what they call the large red fox, and kite fox, or small red fox. According to the opinion of several writers on the natural history of the United States, Kalm, Bartram, Evans, and Forster, the black fox was not known in the United States before the arrival of Europeans; and the last was inclined to believe that they came from Asia, and probably from Kamtschatka, where they are numerous.* All the different species, when pursued, ascend trees, or conceal themselves in subterraneous places. They are destructive to poultry. They are seen to follow the wolf in the pursuit of the deer, and to prey on the remains of the carcase. The flesh is not eaten by the whites, nor by the Indians. The fat is said to be useful as a remedy for rheumatic pains. The fur is employed by hatters, and the skin of the black species is a valuable article of commerce.† The skin of

* Note to his Translation of Kalm's Voyage, Vol. I. p. 222.

† Williams's Vermont, p. 86.

the black fox was considered by the Indian natives of New England as equivalent to forty beaver skins ; and, when offered and accepted by their kings, it was looked on as a sacred pledge of reconciliation.*

ANIMALS OF THE CAT KIND.

29. The Cougouar, *Felis concolor et discolor*, Lin., known by the name of the American *Panther*, is occasionally seen throughout the whole of the American continent ; but differs in size and in colour. The largest killed in the state of New York weighed 100 pounds, and measured nine feet from the muzzle to the extremity of the tail ; the tail two and a half ; two and a half in height at the shoulder. The head is large, and in shape like that of the domestic cat ; the chest broad ; the legs strong, and armed with terrible retractile claws. It resembles in shape the African or Asiatic panther. The colour of the back and sides is of a brownish red ; the back marked with small dark spots, little apparent ; a black streak is perceived at the base and on the tip of the ear ; on the upper lip are irregular dark spots ; the breast, belly, legs, and thighs, are of a cream colour. One exhibited some years ago in Massachusetts, when a year and a half old, measured five feet from the

* Morton's New England Canaan, p. 79.

muzzle to the insertion of the tail ; the tail three feet. The colour was greyish. It preserved its fierce and untameable disposition. That of Pennsylvania, as described by Mr Collinson, measured five feet four inches from the muzzle to the insertion of the tail ; the tail two and a half ; the fore legs twelve inches ; the hind legs fifteen ; the body, near the shoulders, two feet three inches. One of the largest killed in South Carolina was six feet from the muzzle to the insertion of the tail ; the tail two. The general colour of the back and sides a dark fallow, without spots ; the belly whitish, also the claws. In the state of New York I saw one six months old, which had been taken very young, and seemed to have lost its natural ferocity. It was sportive, and suffered itself to be touched and caressed. It purred like a cat ; the eye was fierce and lively, and in the dark it shone like fire. It is seldom seen in the day, but is frequently heard in the night, when its cry resembles that of a person in distress. It is very destructive to domestic animals,—to sheep, calves, and particularly hogs ; and when hungry will attack large cattle. Sometimes it has been seen to carry away sheep from the farm-house during the day ; it darts upon them unawares, seizes them by the throat with its mouth, throws the body on its back, and thus runs to the woods with incredible swiftness. It has been known to follow persons on

horseback several miles, in uninhabited places, keeping at a small distance, without seeming to fear them. It does not return to the place from which it has been hunted by dogs ; but if wounded, it will attack and destroy them. The cougar kills the deer by leaping upon their shoulders from the branches of trees. He seeks his retreat among the deepest recesses, in the crevices of rocks, where the female brings forth her young, and has two, three, or four at a time. The flesh is said to be agreeable. It was eaten as choice food by many of the early planters of Carolina.* The skin is used by the Indians as a covering for the body in the winter season ; when dressed it is valuable for shoes or gloves.

30. The next carnivorous animal, in point of size, is that known by the name of the Mountain Cat, or Catamount, *Felis pardalis*, Lin., *Ocelot* of Buffon. One killed in Vermont, and another in New Hampshire, measured each three feet from the muzzle to the insertion of the tail, which was of the same length ; the body two feet and a half in circumference ; the legs twelve inches in length ; it weighed about 100 pounds. The general colour sallow, with black spots and stripes on the body ; the feet black. The male is distinguished

* Lawson, p. 118.

from the female by a black line along the back. It is a fierce and strong animal. One at Bennington, in the state of Vermont, took a calf out of a pen four feet high, and, placing it on its back, sprung with it up a ledge of rocks fifteen feet in height. * In pursuit of its prey it has no dread of fire, which frightens all other carnivorous animals. It delights in blood. Like the cougar, it leaps on the neck of cattle and deer, which it destroys by tearing the jugular vein. A tiger-cat of a large size inhabits the wooded country and borders of the plains near the shores of the Pacific. The skin, which has a coat of fine long hair, is employed by the natives as a covering.

Of the *Lynx* four species are distinguished in the United States.

31.—1. The Lynx of Canada, *Felis Canadensis*, Geoffroy, † is of a light grey colour, with small irregular dark shades, and long black hairs at the extremity of the ears and tail. It is from two and a half to three feet in length, including the tail, which is about four inches. It is sometimes seen in the north-eastern parts of the district of Maine.

32.—2. The Wild Cat of the New England states, *Chat cervier* of the French, *Bay Lynx* of

* Williams's Vermont, p. 87.

† 14th Vol. of Annales du Muséum, &c.

the English, *Catus cervarius*, Lin., *Felis rufa*, Guldenstat; short-tailed bay cat, obscurely spotted with black; the tail white beneath and at the tip; the points of the ears bearded; about twice the size of a large cat; the hair shorter and smoother than the common lynx. The ears and tail are shorter than those of the former. One of the largest in the state of Vermont weighed fifty-seven pounds. This species was formerly very numerous, and destroyed many of the cattle of the first settlers.

33.—3. The American Serval, *Felis serval*, or wild cat of Carolina, *Chat sauvage de la Caroline*, *Chat pard* in the *Mémoires de l'Académie des Sciences*, Tom. I.; the mountain lynx of Pennant, is about the size of a common cat; colour brown mixed with grey; longitudinal blackish stripes on the back and sides; tail annulated, black and white; the belly and legs marked with black spots; female has sometimes a reddish hue. It is a native of the middle and southern states. There is a description of this animal in the work entitled *Ménagerie du Musée d'Histoire Naturelle*, Tom. II. pl. 1. by the professor of that establishment.

34.—4. The American Black Cat, so called from its colour, (by the Indians *Woolameg*,) resembles the former in shape and habits, but is inferior in size, being never found to weigh more than twenty-three pounds. Like the former, it is

of a fierce and untameable nature. It seems to resemble the *jaguarondi* of Azara.

35. Sea Calf, or Phoque, *Phoca vitulina*, Lin.

36. Crested Phoque, *Phoca jubata*, Lin., found in the north-west ocean.

37. *Phoca Ursina*.

38. Morse, sea-cow, or sea-elephant, *Trichecus*.

39. *Manatis*, Cuvier, *Trichecus manatis*, Lin. This animal has been found near the mouths of the rivers of Georgia, in the Gulf of Mexico.

40. Virginian Opossum, *Didelphis Virginiana*, Lin. *Sarique*, *oreilles bicolores*, of Cuvier; is about the size of a large cat. The nose pointed, and furnished with stiff hairs; the mouth wide; ears naked, thin, round, and of a blackish colour below, white above; the general colour a yellowish grey; tail naked, scaly, and about a foot long; the legs short; the exterior toes of the hinder feet armed with sharp white claws; the interior flat and rounded. The female produces from four to twelve at a time, which are no larger than a pea, and remain for some time in a second gestation, as if inanimate, fastened to the teats, concealed by the false belly, or pouch, into which they retreat from danger after they are detached and able to run about. It forms its bed at the foot of a tree in the midst of a thicket; and, in order to deceive its prey, suspends itself by the tail from the extremity of a branch, as if inanimate. In captivity,

it sometimes devours its young, though supplied with food. Several were thus destroyed which Dr Mease had ordered from Georgia to Philadelphia.* It feeds on roots, wild fruit, and birds. Like the fox, it sucks the blood, without touching the carcase, and commits great havoc, in the course of a few hours, among the domestic poultry. It is slow in motion, and is often overtaken by its enemy; in which case, it feigns death, and remains motionless till out of danger. The difficulty of killing this animal has given rise to a proverb in North Carolina,—“that, if a cat has nine lives, the opossum has nineteen.” Lawson says, “that, if you mash their skull, and break every bone in their skin, and leave them for dead, they will creep away in the course of an hour.” The opossum is easily domesticated. The Chevalier D’Aboville, General of Artillery in the French army, tamed a male and female, which copulated, brought forth, and reared their offspring in his house. The flesh is white, and well tasted. The Indians prefer it to pork. They use the fat instead of butter and lard; and the hair, dyed of a red colour, is woven into girdles and ornamental dress. The opossum inhabits the middle and southern states.

* Mease’s Geological Account of the United States, p. 330.

AMPHIBIOUS ANIMALS.

41. Beaver, *Castor fiber*. The chestnut-coloured beaver, with a flat naked tail, is about three feet in length, ten or twelve inches in breadth across the haunches, and weighs sixty pounds. The head is like that of a rat : the mouth long ; the eyes small ; ears short ; cutting teeth broad, strong, and sharp, projecting beyond the jaw, and remarkable for their size and strength. Legs very short ; the toes of the fore feet separate ; the hind feet webbed ; tail oval, about twelve inches long, six broad, one thick, convex above, flat below, with a scaly surface. Covered with a thick fine down. In Vermont, it is brown or chestnut, and gradually becomes of a lighter hue towards the south. The female has three or four at a birth, which, in the northern states, she brings forth near the close of winter ; in Louisiana, about the latter end of May, or beginning of June. The young remain with their parents till the third year. Their cabins are of an oval form, from four to ten feet in diameter, constructed on piles, along the borders of a pond or stream, and consisting of two, three, or four stories, the uppermost being always elevated above the level of the water. The smallest cabin generally contains five or six beavers ; the largest from twenty to thirty. These animals, naturally peaceful, never make war upon each other ; and, when

attacked, protect themselves by plunging into the water. They feed on leaves and the bark of trees ; in Louisiana, on the bark of the willow and cotton wood-tree. When caught young, they are easily domesticated ; and, in this state, discover a great fondness for boiled pease. Mr Umfreville relates, that he once had a young male, which, after a month's keeping, followed him like a dog ; and, when he had been absent an hour or two, it manifested great joy on his return. The value of the fur of the castor is well known. The flesh is an agreeable food. The tail is supposed by the Indians to possess some masculine virtue, and is preserved as a dish for their princes, called Sachems or Sagamores. The liquid called castor, secreted in vessels situated near the abdomen of this animal, is valuable in medicine. For some time after the first settlements were established, the beavers were very numerous in the Atlantic states. Morton, in his *New English Canaan*, (p. 78,) remarks, that, in five years, a servant in his employ gained a thousand pounds by this traffic, the fur being then sold at ten shillings a pound. Before the Indians knew the use of traps, they broke the ice around the cabin, to dislodge the beaver, which retreated to the water, whence they were frightened back by striking the ice with a club, and were caught by the neck in re-entering their lodge. It is said by the hunters, that an old beaver, which

has escaped from the trap, in passing along the sides of a river, where it is usually placed, carries a stick in its mouth, to avoid being caught. Another instance of wonderful sagacity is, that of perceiving whether a tree, gnawed in a certain direction, will fall across the stream whose waters they propose to dam. The young have not this experience, and often cut half through the trunk, before the parent apprises them of their error.* The beaver, though now scarce, is seen throughout the whole of the continent, from Canada to the Pacific Ocean.

42. Musk Rat, Musquash, or Musk Beaver ; *Ondatra* of Buffon ; *Castor zibethicus*, Lin. Resembles the beaver, except in the tail, which is like that of the European rat in length, but compressed, and more scaly. The head short and thick ; ears short and hairy ; two strong cutting teeth in each jaw, those of the under nearly an inch long ; feet not webbed ; the borders of the toes siliated. The body, of a ferruginous brown colour, is fifteen inches in length, nearly as large as a young rabbit, and weighing about five pounds ; the breast and abdomen of an ashy hue, tinged with red. It inhabits creeks and lakes, on the borders of which it constructs a conical cabin,

* Bradbury, p. 107.

three or four feet high, of sticks, rushes, and grass, cemented with clay. At the approach of winter, they associate in families. The female brings forth from four to six at a time. Their chief food consists of mussels and other shell-fish, and the roots of the Iris. Their flesh is eaten in spring; in other seasons it has a musky and unpalatable taste. The fur is used by hatters. This animal was first described by Sarrasin, the French King's Physician at Quebec, in the Memoirs of the French Academy for the year 1725.

43. Water rat, *Mus amphibius*, Lin. The body is about six inches in length; the tail three; of a blackish brown colour above, ash-coloured beneath; perhaps different from that of Europe.

44. Meadow mouse of Pennsylvania, (described in Wilson's Ornithology, Tom. VI. pl. 50. fig. 3.) length from the nose to the insertion of the tail four inches; tail three-fourths of an inch; colour a brownish fallow above, greyish white below; eyes very small; ears short and round. It feeds on bulbous roots, garlic, &c.; and is hurtful to the plantations along the rivers, by making holes in the banks. Mr Desmarets is of opinion, that this *campagnol*, which resembles the rat, is the species described by Turton.

45. Mouse, *Mus musculus*, Lin. common mouse.*

* Virginia mouse, *Mus agrestis Americanus albus*. Of a

46. *Mus decumanus*, Lin.

47. Canada Rat, or Gopher, *Mus bursarius*, Shaw. Ash coloured rat with short and nearly naked tail; pouched cheeks. The claws of the fore-feet very long, and formed for burrowing in the ground. * It is particularly distinguished by a remarkable receptacle or pouch at the side of each jaw, of an inch and a half in length, which is supposed to serve the double purpose of preserving and carrying food, and removing the earth in the formation of its subterraneous abode. It is a native of the Missouri territory. Bartram has given an account of a rat seen in the lower parts of Louisiana which burrows, and is twice as large as the common rat.

48. Jerboa of Canada, *Jerbille du Canada* de Desmarets, *Dipus Canadensis* of Shaw, and probably the *Dipus jerboa* of Barton, is shaped like a mouse, with a long tail. It frequents the meadows, forests, and corn fields. It is described by General Davies in the fourth volume of the Transactions of the Linnæan Society of London, under the name of the Jumping Mouse of Canada.

white colour; about the size of the common field mouse, with a larger head, short snout, and tapering tail.

* Fifth volume of the Linnæan Society. On account of its receptacle, it belongs to the family of *Hamster ericatus* of Cuvier.

49. Marmot of Maryland, *Arctomys monax*, Lin. Sys. Nat. Gmel. known by the names of wood-chuck and ground hog, is about the size of a rabbit, of a ferruginous brown colour, with a bluish grey snout, and longish villose tail. The body is large and round, fifteen or sixteen inches in circumference, and about the same length; the legs short; the paw broad; the tail half the length of the body; the snout sharp; large black eyes; the ears short and rounded. It has the shape and appearance of a large rat. The largest found in Vermont weighed eleven pounds; but in the southern and western parts it attains a greater size. In the Missouri country, and on the plains of Columbia, it weighs from fourteen to eighteen pounds. It was there seen to form a burrow in a stiff soil with wonderful celerity. It feeds on the wild clover, and other grasses; and at the approach of winter retires to its burrow, where it remains till spring. The female produces four or five at a birth. The flesh of the young is palatable and wholesome; and the fur is valuable. It was first figured by Edwards in his natural history of birds, Vol. II. p. 104.

50. All the late American travellers give some description of an animal seen in great numbers in the Missouri country, where it is known by the names of *Prairie Dog*, *Burrowing*, or *Barking Squirrel*. It is about a third larger than the largest

of this race ; the body long ; the legs short ; the lip like that of the rabbit ; and it has a shrill cry resembling that of a small dog. They feed on grass, and the buds and leaves of shrubs ; and live in families, occupying in some places a surface of several hundred acres, in which they burrow to a considerable depth ; always retiring therein at the sight of man, and never appearing during the season of frost. Their flesh is an agreeable food. It is probable that this animal is a new species of marmot, to which might be given the name of the Missouri marmot, *Monax Missouriensis*. It is called by the Indians *Wishtonwish* from its cry ; and by white hunters and traders, Prairie dog, or squirrel, from the resemblance which it has to this animal in the form of the body, head, tail, teeth, and claws. The tail is exactly like that of the grey species, but not so long. The colour above is a dark brown ; below it is white. Major Pike, in his expedition through Louisiana, describes the place of residence and habits of those animals in the following manner : “ The sites of their towns are generally on the brow of a hill, near some creek or pond, in order to be convenient for water, and that the high ground which they inhabit may not be subject to inundation. Their residence being under ground, is burrowed out, and the earth answers the double purpose of keeping out the water, and affording an elevated place in wet

seasons to repose on, and to give them a further and more distinct view of the country. Their holes descend in a spiral form, therefore I could never ascertain their depth ; but I once had 140 kettles of water poured into one of them in order to drive out the occupant, but without effect.”

“ Their villages sometimes extend over two or three miles square, in which there must be innumerable hosts of them, as there is generally a burrow every ten steps, in which there are two or more. We killed great numbers of them with our rifles, and found them excellent meat, after they were exposed a night or two to the frost. As you approach their towns, you are saluted on all sides by the cry of *wishtonwish*, from which they derive their name with the Indians, uttered in a shrill and piercing manner. You then observe them all retreating to the entrance of their burrows, where they post themselves, and regarding every, even the slightest, movement that you make. It requires a very nice shot with a rifle to kill them, as they must be killed *dead*, for as long as life exists, they continue to work into their cells. It is extremely dangerous to pass through their towns, as they abound with rattle-snakes, both of the yellow and black species ; and strange as it may appear, I have seen the *wishtonwish*, the rattle-snake, the horned frog, with which the prairie abounds, (termed by the Spaniards the *cameleon* from their

taking no visible sustenance,) and a land tortoise, all take refuge in the same hole.”

51. Squirrels.—Fox Squirrel, *Sciurus capistratus*, Bosc. *Sciurus vulpinus*, Gmel. So called from some resemblance to that animal, is the largest of this family, growing to the size of a small rabbit. The general colour is a dark grey; the head black; the muzzle and ears whitish. The upper part of the body is greyish or blackish. It is much larger than the squirrel of Europe, being more than two feet from the point of the nose to the extremity of the tail. It is a native of the southern states, and frequents the pine woods, feeding upon the seed of the almond pine, of which it lays up a provision for winter. Its flesh is a pleasant and nutritive food.

52. Carolina Squirrel, *Sciurus Caroliniensis*, Lin. Described by Pennant and by Bosc,* and Desmarests, in the New Dictionary of Natural History. The upper part of the body is of a ferruginous grey colour, with black dots; the sides fallow; the belly white; the tail brown, with blackish dots, and bordered with white; the ears without penciled hairs at the extremity. About half the size of the grey or cat squirrel.

53. The Grey, or Ash-coloured Squirrel, *Sciurus cinereus*, Gmel.; so called from its colour.

* Journal d'Hist. Nat. Tom. II. pl. 29.

Petit gris of Buffon, or *Ecureuil gris de la Caroline*, is an elegant animal, with a long feathered tail, which it often raises in the form of a curve, so that the tip touches the head. The body of the largest is about twelve inches. Though called the grey squirrel of Carolina, it is also a native of the other states. In Pennsylvania they were formerly so numerous, and so destructive to the grain, that the legislature of this state offered a reward of threepence per head for their destruction. This premium, for the year 1749, amounted to 8000 pounds of the currency; and finding that it would soon exhaust the treasury, it was reduced to one-half.* In winter they live in decayed trees, where they lay up a store of nuts and acorns, and bring forth their young. In summer they construct a nest of sticks and leaves, near the top of the branches. It is said that most of the males are found castrated.† Lawson remarks, that the female, like the bear, is never caught with young; but this is owing to the concealment of both, during this period. The grey squirrels migrate with the change of season; and, in crossing rivers and streams, show a wonderful sagacity, by placing themselves on a piece of the bark of a tree, and shaping their course by means of the tail, which

* Pennant.

† Morse.

serves both for sail and rudder. If a strong wind springs up, all their skill is of no avail, and many perish in the waters. *

54. The Red Squirrel, not so large as the grey, has its name from a reddish stripe which runs along the back; for the sides are greyish, and the belly is white. In some places it is also called the Pine Squirrel, from the circumstance of its feeding on the seeds of the pine. It generally builds its nest in the crevices of rocks, or in some decayed tree. †

55. Black Squirrel, *Sciurus niger*, Lin. The upper part of the body, ears, and tail, of a deep black colour; the breast, belly, and flanks brownish. Mr Desmarests, in his description of this species, ‡ observes, that it has been confounded with the cat squirrel by almost all authors, and particularly by Erxleben and Shaw; but that there is no doubt of its existence, since there is an individual in the cabinet of the Museum, which was brought from North America. § It is a native of the states of

* Cuvier thinks that the cat squirrel of Schreber, a native of Virginia, is a variety of the grey squirrel.

† In the 10th volume of the Dictionary of Natural Sciences, Paris, p. 103, there is a description of a squirrel, under the name of *Sciurus rufi venter*, of a reddish brown colour above, reddish below, with small spots of black.

‡ Journal d'Hist. Nat. Tom. II. pl. 29.

§ Nouveau Dict. de l'Hist. Nat. Tom. X.

Vermont and New Hampshire ; but is not numerous.

56. *Sciurus Hudsonius*, Lin. Pallas. Nov. Spec. Glir. p. 376, *Sciurus vulgaris*, is of a reddish brown colour above ; below whitish ; flanks marked with a black line ; tail of a moderate length, of the colour of the body, and bordered with black.

57. The Striped Squirrel, or Ground Squirrel, *Sciurus striatus*, Lin. of the genus *Tamias* of *Illiger*, is of a yellowish brown colour, with five longitudinal blackish stripes along the back and sides. The ears are not bearded. The body is five or six inches in length, the tail six or seven. It has cheek pouches, or a temporary receptacle for the food. It lives in burrows, stone walls, and covert places ; climbs trees in quest of food, and lays up a provision of nuts and grain, and destroys the germ to prevent them from sprouting. In summer it feeds on apples, peaches, fruits, and seeds. It inhabits the northern and middle states. It is found in Asia, and is described by Pallas under the name of *Sciurus Hudsonius*.

58. Flying Squirrel, Polatouche, *Sciurus volucella*, Shaw. Body five inches ; tail four ; eyes large ; ears short, and almost naked ; tail flat ; the membrane, or loose skin, from two to three inches in breadth, extending on each side of the body, from the fore to the hind legs, and covered with a

downy substance. The colour on the back is an ash, or russet grey. It seldom appears during the day, but in the evening it is very active in search of food, which consists of nuts, seeds, and grain, and the young shoots of the birch. It inhabits all the states. In Louisiana and the country watered by the Columbia river, seven kinds of squirrels were distinguished by Lewis and Clarke. The squirrel is only valuable for its flesh, which is employed to make soup.

59. Porcupine, *Histrix dorsata*, Lin. Urson of Buffon. Short spined porcupine, with very long fur. The body short and thick, somewhat resembling that of the beaver; the head like that of the rabbit. One of the largest in Vermont weighed sixteen pounds. The spines or quills are two or three inches in length, and as thick as a pigeon's quill feather. When attacked, he places his head between his fore feet, and, raising this armour, defends himself against the attack of the dog and smaller animals. The female produces every year, and generally three or four at a time. The period of gestation is about forty days. It seeks its food during the night, and reposes in the day. It feeds on small birds, fruit, and the bark of roots and vegetables. Its motion is slow. In descending trees, it prevents itself from falling by means of its tail. The Indians eat the flesh, which they find well tasted and wholesome. With the quills they or-

namement their stockings and hair; they are also employed to pierce the ear and nose for the insertion of pendants. The porcupine, though not numerous, is seen throughout the whole extent of the United States.

60. American Rabbit, *Lepus Americanus*, Gmel. *Lepus nanus*, Schreber. About the size of the common rabbit; tail short; colour above a tawny grey, which becomes whitish in summer; the ears and tail darker than the body; the belly white. The female breeds once or twice a-year, and produces from five to seven at a time. It never burrows, but lives in the trunks of trees, and ascends as high as the branches.

The varying Hare, *Lepus variabilis* of the southern part of the United States, is distinguished from the former, by changing from a tawny grey to white in winter; the ears are shorter than those of the former, and tipped with black; the legs more slender. The largest is about eighteen inches in length, and weighs seven or eight pounds. The fur is soft and fine. It is very prolific, having several litters in the year, and from three to four at a birth. The period of gestation is about thirty days. The flesh is said to be agreeable and nourishing. It was remarked by Kalm, that there were no hares in this country, but some animals between the hare and the rabbit, which make a great devastation whenever they get into

the fields of cabbage and turnips ; and by Lawson, that what the people of Carolina call a hare, is nothing but a hedge coney. They frequent marshes and meadow land, but never burrow in the ground. They are of the same colour as the European rabbit ; and, like them, hide their young from the buck or male. When pursued, they hide themselves as high as possible, in a hollow tree. This author adds, that he saw the English rabbit on Trent river, among the rocks, but did not believe that it was a native of the country.

61. The American *Megatherium*, which Mr Cuvier thinks approaches nearer to the genus *Bradypus*, or sloth, than to any other yet known. It is classed by this naturalist in the family of unguiculated quadrupeds, having neither canine nor incisive teeth.

62. The hog was not seen in any part of the American continent, at the time of its first discovery by Europeans.

63. The horse is found in a wild state in the Missouri territory, in the meadows between the Arkansas and red river ; but came originally from the western Spanish settlements.

64. The ass was not seen throughout the whole continent, before it was imported from Europe.

65. Caribou, or rein deer, one of this family, about one half the size of the moose deer, with branching palmated horns and brow antlers, has

been seen in the mountainous parts of the district of Maine. It is of a very shy nature. The flesh and skin are highly valued.

66. Elk. This animal, which was known to the Basque fishermen by the name of *Orignal*, and to the Canadian Indians by that of *Aptaptou*, has some resemblance to the horse in the head and neck, and is nearly of the same size; in the form of the body and limbs it resembles the deer, but it is of far superior strength. The largest weigh a thousand pounds, measure nine feet from the muzzle to the insertion of the tail, four feet and a half at the shoulder, the fore legs two and a half, the neck of the same length, the ears nine inches, the tail three. Some years ago, two of these animals, made tame for the purpose of exhibition, were brought from Upper Canada to New York; the female, a year older than the male, though not of full growth, was seven feet nine inches in length, and four feet seven inches in height at the shoulder. The length of the horns is about three feet, the breadth between their insertion four inches, and two feet and a half between their extremities. They are shed annually in the month of May, and the new ones appear in the course of a fortnight. They are not palmated like those of the Moose, but roundish, with pointed antlers, the lowermost forming a curve downward over the eye, and called by the hunters *fighting horns*. Under the angle

of each eye is an oblique slit, or opening; and on the exterior side of each hind leg, there is a small vesicle, or bag, containing an unctuous substance, against which, as the huntsmen say, the animal rubs the young horns twice a-day, to give them nourishment. The hoofs are short but divided, and in motion make a noise like those of the moose or rein-deer. It has no mane; but under the neck, there is a ridge of long hair resembling that of the Baskir horse, and the hair of the body is longer than that of the domestic breed of this animal. The colour of the back and sides is a dark brown ashy dun, that of the head and legs a dark brown. The female, which has no horns, is with young from the 20th of September to the 1st of October, and brings forth nine months afterwards. There are generally two at a birth, and of different sexes. In summer, this animal feeds on grass; in winter, on moss and buds. Those exhibited in New York, discovered a fondness for tobacco, which their keeper said was natural. In the northern parts of New England, they were so common, for some time after the arrival of the first settlers, that, in the hunting season, the Indians were in the habit of presenting six or seven at a time to Englishmen for whom they entertained high esteem. The flesh was more valued than that of the common deer, and the hide was pre-

pared for shoes and stockings.* The elk is now rarely seen on the eastern side of the Mississippi; but is numerous in the elevated plains of the Missouri and Columbia rivers, where it feeds with the buffalo and red deer, but does not couple with either. When pursued it runs with great speed to the thickest woods. Lewis and Clarke, in their expedition across this country, remarked, that some had shed their horns in the month of March; in others, they had already grown to six inches in length, and a few still retained the old ones. The last were very lean. Mr De Witt Clinton, in his Introductory Discourse before the Philosophical Society of New York, observes, “that the moose and the elk have been confounded together by European naturalists, whereas they are radically distinct. The former is confined to America, is never seen south of the 44th degree of north latitude, and his range is limited to about 10 degrees of latitude, and fewer of longitude; he may probably grow to the height of twenty hands.” “The elk is not so tall, and perhaps never exceeds fifteen hands; and he generally inhabits milder climates. The moose has large flat palmated horns; our elk has round cylindrical horns. The former is confined to the regions of the north; the latter

* Morton's New England Canaan.

extends itself from Canada to the south ;”—“ and I think we are well warranted in saying: 1. That the animal which we call the elk, is not the *Cervus alces*, but that it is either a variety of the stag, red deer, or hart of Europe, the *Cervus elaphus*, or a distinct species of *cervus*. 2. That it is not the moose, and that the moose, according to the opinion of the most eminent naturalists, is a variety of the *Cervus alces*. ”*

67. Moose, (elk of the French naturalists,) *Cervus alces*, Lin. This animal is nearly of the size and shape of the elk, with which it has been confounded; but it differs in several respects, particularly in the shape of the horns, which are palmated and spreading; and there are two kinds, one of a black colour, said to grow to the height of eight or nine feet; and the other greyish, which seldom exceeds the size of a common horse. In both, the head is large, and in length disproportionate to the body; eyes small, ears long, large nostrils, the upper lip furrowed, and much larger than the under, the neck short, with a thick and erect mane. The hinder parts of the body large and broad; the legs long, and more slender than those of the common horse; the fore ones longer than the hind ones. The hoof deeply divided.

* Introductory Discourse, delivered before the Society, the 4th May 1814.

The horns without antlers, spread out four or five feet from the base, so that the distance between the extreme branches is from five to six feet. On the outer side, they are armed with sharp points. They are shed in December and January, and have been found to weigh from thirty to forty pounds. The female has none. This species, formerly very common in the northern states, is of a dark brown colour, with the mane and tail somewhat lighter; a long coarse tuft, which hangs from a small protuberance under the throat, is of a black colour. The weight of the largest, when full grown, is estimated by the hunters at from 1300 to 1400 pounds.* It moves in a kind of pace or trot, and though it lifts its feet high, it goes with great speed. The female engenders in the months of September and October, and brings forth in May, producing one, two, and sometimes three at a birth. The male is inoffensive and harmless, except when wounded, or in the rutting season. He will then turn fiercely against his pursuer, and destroy him with his horns and feet. In summer, they feed like the elk, in families, on the pasturage of the plains; in winter on the tender branches of trees, particularly those of the willow and poplar; and it is said, that, in the more northern regions,

* See Williamson's History of Vermont.

when the snow is deep, and not sufficiently frozen to bear them, they beat it down all around to some extent, in order to find the bark and shoots of trees, and when these are consumed, they repeat the same operation upon another spot. The flesh is a pleasant and nourishing food, and the upper lip and the tongue are considered as a great delicacy. The skin is thick, but, when dressed, is soft and pliable. Of the palmated part of the horn the Indians make ladles; and the sinews, dried and prepared in a particular manner, serve as thread.

68. Red Deer, or Stag, *Cervus Canadensis*, Gmel. *Cervus Americanus*, Catesby, and *Alces Americanus*, *cornibus teretibus*, Jefferson. *Cervus Strongyloceros*, Schreber. Rufous brown deer, with cylindric recurvate branching horns, has the name of red deer from the reddish colour of its hair. It is much larger than the red deer of Europe, being three feet and a half in height, and is remarkable for the elegance of its form, its strength, and swiftness. The largest horns are two feet in length, and weigh four pounds; they are round, branched, and lofty. The first year they are very short, and covered with a hairy skin; the next they are larger, straight, and without antlers; the third year they have two, and an additional one each succeeding year, till they arrive at the sixth or seventh, when the number on each side is equal. The female receives the male in the

month of September, or October, and brings forth in May, having sometimes one, and sometimes two at a time. The red deer is common in the western and southern parts, but not in the northern. That of the Ohio country is said to be of a larger size; and it would appear, that there are several varieties of this animal. Captain Lewis describes one of the Missouri territory, as very similar in appearance, with the exception of the tail, which, in one that was taken, measured seventeen inches. This variety was also seen on the high chain of Rocky Mountains, and on the banks of the Columbia as low as tide water. They are numerous in the country bordering on Hudson's Bay. The hide, horns, and fat, are all valuable.* Cuvier observes, that this stag, though larger than the common red deer of Europe, may be a variety of this animal; and with horns more developed.† He remarks, that it is the elk, or elan of the English Americans; but this name is never given in North America.

69. *Cervus Wapiti*, or Great Stag of the Missouri country, is larger than the red deer, and dif-

* Umfreville's Present State of Hudson's Bay, p. 163. London edition.

† Le Regne Animal distribué d'après son Organisation, Tom. I. p. 256, first Paris edition, 1817.

fers in many respects, particularly in the yellow colour of the rump, in the shape of the digitated horns, the first antler of which descends across the front in an almost parallel direction. It is of an elegant figure, and formed for strength and swiftness. The male, when full grown, is eighteen hands high at the shoulders; and it does not acquire maturity before the twelfth year, which is indicated by the shape and growth of the horns. Under the inner angle of each eye there is a remarkable slit or opening, nearly an inch in length, which secretes a matter of a brownish colour and granulated form. From a remarkable protuberant gland on the outside of each of the hinder legs, covered with yellowish hair, there issues an unctuous matter, which the animal spreads over his fine covering in such a manner as to protect the skin from rain, and from the action of the current in crossing streams. In summer, the general colour is of a reddish grey: in winter, of a dunnish hue, except the rump, which is of a pale yellowish white to the breadth of six or seven inches from the tail, and this semicircular spot is bordered by a blackish hue, varying in breadth from a quarter to two inches. They live in families, but the male is attached to one female only, which brings forth in the month of July, and has generally twins. They confine themselves to a particular range of pasture, where the white clover abounds; and so

strong is their mutual attachment, that, when one is killed, the whole herd, struck with sadness, fall an easy prey to the hunter. When taken full grown, in their natural state, it is impossible to tame them : but, when young, they are easily domesticated. The Indians take them by means of a net, and, in the more northern parts, train them to the sledge. In winter, their flesh is very agreeable and nutritive, and is preferred to that of all other animals. It is owing to this circumstance, that in this season they are constantly pursued and destroyed. The Indians, to indicate very old age, say, that the person is as old as a wapiti, which shows that this is a long-lived animal. Four of this species, lately exhibited in London, were brought from the Upper Missouri country by a German naturalist, to whose printed description, in the form of a hand-bill, we are indebted for many of the above particulars. It appears that this animal was long since described by Perrault, under the name of *Cervus du Canada*, or Canadian Stag. In Berwick's History of Quadrupeds, it is figured under the name of the American Elk. Of late, it has been scientifically described by Dr Mitchell of New York, and by Dr Leach of London.*

* By the former as follows: *Cervus wapiticolor palliatus, pedice flavescente, corpore flavescente lineâ nigra circumtus, pedes antici nigricantes. Cauda brevis.*—By the latter: *Cervus Wapiti*.

70. Virginia Stag, known also by the name of Louisianian Deer, *Cervus Virginianus*, Gmel. Pale brown deer, with slender round branched horns, bending forward, and slightly palmated at the top. About the size of the European fallow deer. It inhabits all the wooded country from Vermont to Louisiana. In winter, it feeds on the creeping plant known by the name of *Spanish moss* or *string moss*, and is seen in flocks near the salt springs. Though of a restless wandering disposition, it is easily domesticated; and some have been tamed so as to run in the woods during the day, and to return home in the evening, sometimes followed, in the rutting season, by some of the wild ones, which thus become the victims of their attachment. * According to Pennant, more than 25,000 skins were imported from New York and Pennsylvania in the year 1764. This animal is distinguished from the red deer by its inferior size, by the palmated horns of the male, by the great length of the tail, and the general colour, which is brighter. There is another difference with regard to the time of shedding the horns, which fall off somewhat later. That of the state of Louisiana and

C. cornibus ramosis amplissimis; ramis teretibus, frontalibus descendentibus fronte subparallelis apice recurvis, aliis totis abruptè reflexis. Journal de Physique, &c. for July 1817.

* Kalm's Travels. Translation by Forster, Vol. I. p. 162.

the Missouri territory is smaller than in Virginia, but in every other respect they resemble each other.

71. Mule Deer. So called by Lewis and Clarke on account of its long ears, which resemble those of the mule, inhabits the western side of the Rocky Mountains near the borders of the Kooskooskee River. The tail is long, without hair, except at the extremity, where there is a small tuft of a black colour. Hence it is also named the black-tailed deer; but is different from another species, or variety, to which these travellers have given the name of black-tailed fallow deer, on account of its partaking of the shape and form of both the common and mule deer. It is larger than the former; the legs shorter, and of a darker colour; and resembles the latter in its bounding motion. These animals seem to be the same which inhabit the country on Hudson's Bay, described by Umfreville, under the name of "Jumping deer," in the following terms: "A small clean made animal with horns about two feet long, which fall off in the month of April; colour brown, intermixed with grey hairs, exceeding lively and gay. There are two kinds, one of which has a very short tail like the rest of the species; the other, a tail about a foot long, and covered with red hair. Its food consists of grass, of the fallen leaves of the poplar, the young branches of different kinds of trees, and the moss adhering to the pines. This handsome animal ruts in Novem-

ber, brings forth in May, and has one or two at a birth. The flesh is delicious." *

72. Antelope. An animal, to which Lewis and Clarke have given this name, was seen to wander in flocks of several hundred, along the borders of the Missouri River, above the confluence of the Platte ; and also in the plains to the west of the mountains, where the skin dressed in the hair is worn by the natives. It is so shy of man, that it never comes within reach of the gun, except when the hunter conceals himself in the grass, and waves his handkerchief in the air on the end of his ramrod, when the animal gradually approaches, and falls a victim to its curiosity. If this be an antelope, it is the first of this race discovered in the New World. The horns are of a cylindrical form, black, smooth, and straight. The wool is white and short, and is woven into a kind of blanket ; and is also preserved on the skin to serve as a covering to the body. It is smaller than the former animal, and has a longer tail ; the shape of the horns is also quite different, though it was suspected by Mr Macgillivray that this was the female. They herd in families, two, three, or more in number, and when pursued they fly from rock to rock, seeking places the most inaccessible, and so swift is

* Present State of Hudson's Bay, p. 164.

their course, that they far outstrip both horse and dog. They feed on grass, and the tender shoots of shrubs. The flesh is considered as the sweetest feast of the forest. M. de Blainville, who saw the horn of this animal in the collection of the Linnæan Society of London, is inclined to believe, that this animal is the same as that described by Molina under the name of Pudu, * but has proposed that of *Rupicapra Americana*. †

73. Goat, *Capra*. This animal was seen in large flocks, by Lewis and Clarke, on the plains of the Mississippi. In winter they migrate westward to the Black Mountains.

74. Rock Mountain Sheep, *Ovis montana*, Geoffroy. This animal, called by the Mandan Indians *Ahsakta*, by those near Hudson's Bay *Apisto-chick o-shish*, and by the French hunters *Grosse corne*, and *Cul blanc*, on account of its large horns and white rump, inhabits the rugged and unfrequented sides of the mountains in the Missouri country. One taken by Mr Macgillivray, in latitude 50° , and longitude $115^{\circ} 30'$ west from Lon-

* Shaw's Gen. Zoolog. Vol. II. pl. 188.

† Bulletin de la Société Philomatique, 1816, p. 80. There is also some account of this animal by Mr Ord, in the Journal of the Academy of Natural Sciences of Philadelphia, for May 1817.

don, was three feet and three quarters in height, and five feet from the extremity of the nose to the insertion of the tail; the circumference of the body was four feet; the horns three and a half in length, four or five inches in diameter, and crooked like those of the ram; tail four inches; the legs slender. The colour of the body is a light red, except the rump, which is white; the legs are also whitish.* The horns are permanent. Mr Umfreville remarks, that he had seen ladles made of them large enough to contain two quarts of water.†

75. American Wild Ox, or Bison, *Bos Bison*, Gmel. called buffalo, resembles, in form, the buffalo of Italy, but is much larger. The male, when full grown, weighs from 1600 to 2000 pounds, and measures about ten feet from the muzzle to the insertion of the tail. The legs are short and thick; the horns, of a dark colour, and curved inwards, are a foot in length. The tail is short, and naked, except at the extremity, which is garnished with a considerable tuft. A large mass of flesh rises from its shoulders, and extends along the back, which being covered, as well as the head and neck, with long rough hair, several inches in length, give a hideous appearance to this animal,

* Medical Repository of New York, Vol. VI. p. 239.

† P. 166.

whose body is besides disproportionate, in having the fore parts of an extraordinary size, when compared with the domestic ox. The female is smaller than the male, and without the long tufted hair, which cover his head, neck, and shoulders. Both have the back and sides of a brown colour; the head, neck, and legs, are nearly black. The hair falls off, and is renewed in summer, except when the animal is very old. He then seeks shelter, during the severity of winter, in the thickest woods, where he sometimes perishes by cold. They feed in flocks on the great prairies, or natural meadows, and discover a very shy nature, avoiding the approach of man, except when wounded, or in the copulating season in the month of July, when the male becomes very fierce. In the months of March and April, the young are caught by a man swift of foot; and they may be domesticated and tamed to the plough, though they still preserve something of their shy nature, which is also inherited by the progeny of the bison and the domestic cow. The bison was seen in the Carolinas, on the eastern side of the Apalachian mountains for some time after the arrival of the first colonists from Europe, on the hilly parts of Cape Fear river, where two were killed in the same season. * They were also seen at a later

* Lawson's Natural History of Carolina, p. 115, first London Edition.

period, in the western parts of Pennsylvania, and in Kentucky herds of several hundreds were frequently seen as late as the year 1766; but they have gradually retired before the white population, and are now rarely seen to the south of the Ohio, or the east of the Mississippi river. On the western side, in the upper parts of the country known by the name of Louisiana, (now the territory of Missouri,) they are seen in flocks so numerous, as would appear incredible, if not attested by travellers of well known veracity. Dr Sibley, who, in 1811, penetrated into the Osage country, says, “ That near the great *Salines* the meadows are covered with immense herds. It is actually worth a journey from Philadelphia to see the buffalo, about ten o’clock in the morning, pouring from the hills into the vallies. One morning I was highly delighted with this scene. We were near the centre of a level valley, inclosed by a very high ridge, whose inner sides were nearly perpendicular; the form was a kind of irregular circle, visible in every part. Three or four gaps in the ridge afforded a gradual descent into the valley. It was about ten o’clock, and a very fine morning. For a few minutes we heard a rumbling noise like distant thunder, which, for a moment, I was at a loss to account for; but, before I had time to question the Indians, the cause was obvious. We were actually surrounded with buffalo, which were rush-

ing, in two opposite currents, to the well known passes which lead into the valley, where I am sure ten thousand appeared. The several passes by which they entered, necessarily divided them into as many separate droves. Before they had all descended I proposed to our war-party to have a grand battle, which they readily assented to, and made the necessary preparations to attack a detachment of about 2000, that was coming directly towards us. In five minutes the action began. They managed the business in an admirable manner. Eighty active Osages against 2000 buffaloes. I could by no means remain an idle looker on. My horse was fresh and vigorous, and used to the sport ; he soon carried me into the thickest ranks of the drove, and I discharged a brace of pistols and a double-barrelled gun before I quitted them. The firing of guns, yells of the savages, and the tremendous roaring of ten thousand affrighted buffaloes, formed altogether a scene not to be described. The valley was soon cleared ; but we heard the roaring of their feet for more than an hour. The issue of this affair was twenty-seven buffaloes killed, and an Osage a little hurt by being run over.” * Another traveller, Mr Bradbury, states,

* Extracted from the MS. of this traveller, which was politely communicated to the author by the agent for Indian affairs at Washington.

That, on a beautiful plain, above the junction of Heart river, he counted seventeen herds, probably exceeding ten thousand in number. Another plain, above the junction of the *L'eau qui Court*, was literally covered with buffaloes as far as he could see. The males, says he, were fighting in every direction, with a fury which I have never seen paralleled, each having singled out his antagonist. We judged that the number must have amounted to some thousands; and that there were many hundreds of these battles going on at the same time, some not eighty yards from us. It will be recollected, that, at this season, (20th of June,) the females would naturally admit the society of the males.* Besides the mode of killing the bison on horseback, with the gun, spear, or arrow, various others are practised by the Indians. Inclosures of earth and trees, of a circular or square form, are made, into which they are driven. Sometimes the hunters advance against the wind near to a flock, which having surrounded, they set fire to the grass, and, to avoid the flame, the animals crowd towards the centre, where they fall an easy prey. If the hunter can approach them, while feeding, without being seen, or discovered by the smell, he may fire forty or fifty times without rousing the herd. In

* Bradbury's Travels in the Missouri Country, &c. p. 128 and 182.

their defence against the wolves, which attack them in troops, these animals discover a wonderful sagacity, forming a circle, within which are placed the females and their young, which the males protect, and at the same time defend themselves, by placing their horns towards the enemy so close to each other, as to form an impenetrable barrier. When surprised in a dispersed manner, without time for the formation of this line of defence, they fall an easy prey to this ravenous enemy, who always attacks in troops, and never singly. Every part of the buffalo is converted to the use of man. The flesh is the chief article of food among all the Indians who inhabit the country. Near the junction of the Rapid river with the Missouri, it was so abundant, that more than a thousand pounds, in what is called a jerked or dry state, were procured, in 1810, by the chief of a trading voyage, * for two dollars worth of tobacco. The flesh of the cow is preferred to that of the ox, and the most delicious morsel is the hunch on the shoulder. The fattest of these animals yield from a hundred to a hundred and fifty pounds weight of tallow. The skin is dressed into robes which form a comfortable clothing. The fine wool is spun into cloths and gloves; and powder flasks are made of the horns. The

* Mr Hunt, with whom Mr Bradbury, who narrates this circumstance, ascended the Missouri river.

greatest quantity of fleece or hair taken from the largest skin is about seven or eight pounds.

76. The Musk Ox, *Bos Moschatus*, Gmel. *Oribos* of De Blainville, is not found within the limits of the United States, though numerous between the latitudes 66° and 73° north. It is also seen in the country of the Cristinaux and Assiniboels, and southward as low as the provinces of Quivera and Cibola. It is about the height of the common deer, but much larger and thicker in the body, and is covered with long pendant hair of a dusky red colour. The horns (in the male) are closely united at the base, and bend first inwards, then downwards, and at the tip outwards. Those of the female are smaller, more distant from each other at the base, and the general colour is black. In both, the body is covered with a very fine glossy ash-coloured wool, which is concealed by the long hair. The flesh is said to have a musky taste, but is eaten, and is supposed to be very wholesome. The skins are excellent coverings for the Indians, and of the tail the Esquimaux make a cap, which has a frightful appearance, but it is of great advantage in protecting the face against the mosquitoes. *

77. Of the animals which have disappeared in

* Shaw's Zoology. Vol. II. pl. 212.

the United States, the most remarkable are: 1. The Mammoth, whose bones have been found in a good state of preservation in different parts of the United States, so as to form almost the entire skeleton. It was named *Le Grand Mastodonte* (*Mastodon giganteum*) by Cuvier, who has found this immense animal to resemble the elephant in every respect except in the form of the teeth, which, instead of being flat on the crown, terminate in blunt conical points.* Several skeletons were discovered in Orange and Ulster counties. One in Seales' museum in Philadelphia, is of the following dimensions: Height at the shoulders, eleven feet; at the hips, nine; length in a straight line, seventeen; length of the tusk, ten feet seven inches; weight of a grinder, four pounds ten ounces; weight of the skeleton, a thousand pounds.

* Annales du Musée d'Histoire Nat. et Recherches sur les Ossements Fossiles du Quadrup. Tom. II.

CHAPTER SEVENTH.

OF THE MOST PREVALENT DISEASES IN THE
UNITED STATES.

THE diseases most injurious to life in the United States, and which are supposed chiefly to distinguish the climate from that of Europe, are the following : Yellow fever, intermitting and bilious fever, consumption of the lungs, rheumatic affections, dysentery, scurvy of the gums, or premature decay of teeth. *

Yellow Fever.—This disease, which belongs to tropical regions, had appeared occasionally in the commercial towns, or ports south of the Potomac river, almost from the period of the first settlement. It appeared in the city of Charlestown in 1699, 1732, 1739, 1745, 1748, 1761; in Virginia in 1737, 1741, and 1742; north of the river Potomac, at Philadelphia, in 1699, 1741, 1747, and 1762; at New York in 1740, and 1748; it

* See Volney, chap. 10, on the Reigning Diseases of the United States.

did not reappear at the latter place till the year 1790, nor at the former till 1793 and 1794; in 1796 it again broke out with violence in both. It reappeared at Philadelphia in 1797, and the year following it raged there and in New York with still greater malignity, during the months of July, August, and September. In the same season, it also manifested itself at Charlestown, Norfolk, Baltimore, and Newbury port; at Boston, in 1798 and 1802; at Providence, in the state of Rhode Island, in 1805; and in the town of St Mary's, in Georgia, in 1808.

In all these places, it first showed itself amidst the poorest and most crowded population, in low situations, in narrow filthy streets, and along the wharfs, where there was a deposit of large quantities of animal and vegetable matter. Generally it was observed, that, when the first symptoms appeared, vessels had arrived from climates where it was known to prevail. This circumstance gave rise to a controversy concerning its native or foreign origin, which has been productive of great advantages, by directing the attention of the city corporations to every means of prevention and cure.

This fever seems to differ from all others, in the violence of its symptoms, in its short duration, in the great prostration of strength which immediately ensues, in the yellowness of the skin and

white of the eyes, and, when it ends fatally, which usually takes place in the course of a few days, in the vomiting of black matter, and in hemorrhages from the mouth, ears, and nostrils. Immediately after death, the stomach and intestines are attacked with gangrene, and the whole body undergoes a sudden decomposition. In the year 1791, this fever first manifested itself in New York, at Peck-slip, near the wharfs, in a quarter badly ventilated, and thickly inhabited by persons of the most indigent classes. From this place it spread to other parts of the city, and continued till the middle of October, when it ceased with the warm sultry weather, with which it made its first appearance. In the year 1793, it broke out in Philadelphia, in Water Street, the most crowded and unhealthy part of the city, and which, at that moment, was rendered still more unhealthy by a considerable quantity of damaged coffee exposed on one of the docks. From this quarter, the disease gradually spread through a considerable part of the city, and continued till the commencement of frosty weather. The number of its victims, this year, was nearly five thousand, seven-eighths of whom were of the poorer class, inhabitants of narrow streets and alleys, who had not the advantage of frequent change of bed and body linen. *

* Carey's Account of the Yellow Fever, &c.

In New York, in the autumn of 1795, it first appeared during moist weather, in the eastern limits of the city, where an unusual quantity of filth was accumulated, and shortly after the arrival of a great number of poor emigrants from Europe, to whom it was particularly fatal,—for, out of nearly eight hundred persons who died, not more than a hundred and fifty were citizens of New York; and it appears certain, that the influence of the contagion diminished in proportion to the distance from this low situation. The number of sick, in the place where it first broke out, compared with that of the more elevated parts of the city, was computed as twenty to one.* It again broke out in the same part of the city, near the Ship Yards, after a great fall of rain, which, overflowing the cellars in Front Street, then stored with salted provisions, produced deleterious exhalations, which carried the disease through different parts of the city, till its progress was arrested by a sudden frost. The number of victims was estimated at two thousand. It results from these, and many other similar facts, that, to the production of this disease, two things must contribute, a vitiated atmosphere, and a temperature of about eighty degrees of Fahrenheit; and it is remarked by Dr

* Bayley on the Epidemic of 1795, p. 90.

Rush, and many other physicians, that, out of upwards of a thousand persons, who have carried this disease from the cities into the country, there are not more than three or four instances to be met with, of its having been propagated from them by contagion. *

Different Medical Opinions, concerning the Origin and Propagation of Yellow Fever.

It is the opinion of the Philadelphia College of Physicians,

1. That the contagious malignant fever, which appeared in that city in the years 1793, 1797, and 1798, was essentially different from the bilious remittent fever of that climate.

2. That the contagious malignant fever of those years, was the same disease which is known in the West Indian islands by the name of yellow fever, or the *Siam* disease.

3. That the contagion was imported to Philadelphia in 1798, from the ports of those islands, in one or more vessels, which arrived in the months of June and July.

It is the opinion of the Faculty of New York,

That the primary and essential cause of yellow fever is a miasma, or pernicious exhalation floating

* Observations on the Origin of the Yellow Fever. 1799.

in the atmosphere, produced by heat, moisture, and a quantity of decaying animal and vegetable matter. The secondary or exciting causes are, exposure to heat, fatigue, cold, dampness, intemperance, fear, anxiety, &c. Instead of gradually pervading families, or creeping slowly from one neighbourhood to another in the track of infection, as is invariably the case with contagious distempers, this disease is often found scattered at distant and unconnected places, and in situations where contagion could neither be traced nor suspected.*

The opinion of Dr Hosack is,

1. That an impure atmosphere is indispensably necessary to multiply and extend the specific poison constituting plague, dysentery, typhus, and yellow fever.

2. That the impurities of the atmosphere do not produce their effects in the manner suggested by Dr Chisholm, by increasing the susceptibility of the system to be acted upon by the peculiar virus of those diseases; and that,

3. The reverse is the fact; those who reside in the pure air of the country, being most liable to be infected when exposed to the contagion.

4. That the impurities of the atmosphere are fermentable materials, to be called into action by

* Mitchell and Miller on the Yellow Fever.

the specific ferment of those diseases, aided by heat, moisture, and a calm state of the atmosphere, and that, as far as it extends under circumstances favourable to such fermentative or assimilating processes, the disease is epidemic. *

The Medical Faculty of Baltimore, in their report concerning the yellow fever of 1800, remarked, that the gradual manner in which this disease becomes epidemic, is an additional proof that it is not derived from foreign sources. †

The Board of Health of Massachusetts, with the advice of the medical faculty, framed an act in June 1799, to make provision for the destruction of domestic contagion; though Dr Waterhouse seems to have adopted the opinion that the disease has a foreign origin. ‡

Those who opposed the doctrine of contagion, and who are by far the most numerous throughout

* On the Laws of Contagion, pp. 41, 42.

† Noah Webster ascribes yellow fever and other pestilential diseases to various causes, such as earthquakes, comets, tornadoes, hailstones, fish, insects, &c.

Lord Bacon, in his *Sylva Sylvarum*, Exp. 383, 736, 914, 915, remarks, that a multitude of flies, frogs, and locusts, indicate a year favourable to the production of sickness and putrefaction. The early astrologists attributed to the planet Saturn a great influence in the production of pestilential diseases.

‡ Medical Repository, Vol. IV. p. 354.

the United States, derived great support from the two following facts: *1st*, That this fever has existed in some of the interior parts, inaccessible to foreign contagion; and, *2dly*, That persons attacked, when transported to the country, do not communicate it to those by whom they are attended. The astronomer M. Ellicot, in descending the river Ohio, in 1796, November, found yellow fever to prevail in the village of Gallipolis, though situated on a high bank, on the west side of the river, a few miles below the mouth of the great Kanhawey. The disease evidently proceeded from a number of small ponds and marshes within the limits of the village, which served for the deposit of animal and vegetable matter. In several cases the disease in this place was attended with black vomiting. M. Ellicot states, that it could not have been imported, for his boat was the first that descended the river after the fall of the waters in spring; and, consequently, there had been no communication with New Orleans. Another similar instance occurred in 1797, at the village of New Design, (about fifteen miles from the river Mississippi, and twenty from St Louis,) also situated on a high ground, but surrounded with ponds. Of two hundred, the whole number of the inhabitants, fifty-seven were victims. A third example took place in 1799, in Bald Eagle Valley, to the west of the Susquehannah river, where a num-

ber of persons, living around stagnant ponds, were attacked by a fever, with black vomiting, of which several died. *

The vapours exhaled from the remains of animal and vegetable substances in a state of putrefaction, produce the same kind of pestilential disease, in the warm season in other countries; in Sardinia, in the vicinity of Rome, at Alexandria in Egypt, in the islands of Cayenne and Java, and on the coast of Tripoli. † In this respect the *virus* of the yellow fever is different from that of the plague. The Christians at Constantinople protect themselves from the latter, by avoiding all communication with the persons or places known to be affected; without sheltering themselves from the influence of the wind.

There are also instances of the disease originating on board of ships. Mr Gillespie, speaking of the fever in the British squadron at Martinique, in 1797, says, there is very little doubt that the disease was spontaneously generated on board of ships of war, to which their crews were highly disposed, from their having lately arrived in the country, and from the terror with which their minds were impressed by the fatality of the country

* Medical Repository of New York, Vol. IV. p. 74.

† Lind on the Diseases of Hot Climates.

diseases, and to dissipate which they had recourse as much as possible to the pernicious spirits of the island. *

In the month of December 1799, a malignant fever was generated on board the American ship Delaware, while lying in the port of Amsterdam, in the island of Curaçoa, where she was exposed to the noxious vapours of a filthy pond; and, so fatal was the disease, that the vessel lost twenty out of a hundred and thirty of her crew. †

From this and many other instances it appears, that the yellow fever may be considered as at the same time endemical, contagious, and epidemical. *Endemical*, as arising from *miasma*, or poisonous exhalations;—*contagious*, as it is propagated by communication with the sick person, by the mouth, lungs, or skin, absorbing the virus of the disease, directly exhaled or transmitted through the air, in cases where the circumstances favourable to its production exists;—*epidemical*, as depending on a common and accidental cause, extending itself from one point to another, from the primary seat to a certain distance, under a certain relation to the actual state of the atmosphere and condition of the body, and attacking generally different classes of society. That this terrible disease was nourished

* Observations by Leonard Gillespie, &c. London, 1800.

† Medical Repository, Vol. V. p. 280.

and supported by the filth of wharfs and low places in all the commercial towns, is evident from its total disappearance, since the enforcement of judicious regulations, by the Corporation and Board of Health. From the year 1793 to 1808, it had appeared with more or less violence in all the commercial towns, from Boston to New Orleans; and from that period it entirely ceased, till the autumn of 1817, when it again appeared at Charlestown and New Orleans, produced, as was supposed, by the uncommon humidity of the season. The removal of noxious matter, the planting of trees, the more abundant supply of water, with great attention to cleanliness, were the causes, it is believed, of the cessation of the disease, during the above period; for the seasons have since been equally unhealthy, more vessels have arrived from tropical ports, and the population has greatly increased.

A document of some importance, respecting the contagious nature of yellow fever, was published by the Faculty of Medicine at Paris, in the "*Journal de Medicine*," for July 1817, from which it appears to be the opinion of the Faculty of Medicine, that the yellow fever is contagious only under particular circumstances. The paper is entitled, "Report of the Faculty of Medicine at Paris, in Reply to a Communication from the Minister of the Interior, relative to the necessity

of preventing, by timely precautions, the introduction of Yellow Fever into France, through the means of commercial intercourse with other nations. By Messrs Chaussier, J. J. Leroux, and Halle, Professors of the Faculty of Medicine."

After discussing the question of the contagious nature of the fever, and enumerating the cases in which it has appeared in Europe, the report thus continues: " We may then conclude, from established facts, that the yellow fever is often merely sporadical, and not contagious; that it is annually endemic at the Antilles, in the winter season; that, in certain years, it may find its way into merchant ships, by the same means that contagious fevers do; and that, under these circumstances, it may be imported into Europe, at least to the forty-third and forty-sixth degrees of latitude; that it has only been observed to be epidemic in those latitudes, when ships had arrived in them, infected with the disease, and coming from countries where it was endemic, particularly from America and the Antilles; that, consequently, in these cases, the disease ought to be regarded as probably, if not certainly, contagious. It does not, therefore, appear to us to admit of any doubt, that it is the duty of government, under these circumstances, to take the necessary measures to secure our ports against the entrance of such an evil, by adopting precautions similar to those which have been employed to

prevent the dissemination of the plague from the Levant, these being the only means whose efficacy can be relied on, to arrest the progress of these species of contagion.”

Intermitting and Bilious Fever.—All low parts of the United States, along the banks of rivers and lakes, and near the borders of stagnant waters, and in marshy situations, where vegetable or animal substances, in a state of decay, are exposed to the action of the autumnal sun, are subject to intermitting or bilious fever, or a fever different from both, according to the degree or variation of heat and moisture, or the quantity of morbid matter exhaled. The most general is the intermitting fever, which, in situations where great heat and moisture are combined, becomes continual, and assumes the very type of yellow fever. In every low situation, where the rich vegetable soil is first exposed to the action of the sun, or where the water disappearing, presents to its action a muddy surface, deleterious emanations are produced, which ascending to the summit of a neighbouring hill, become the cause of disease there, as well as near the surface, where they originated. The intermitting fever, known by the name of the fever and ague, prevails in the above situations, in a moist and rather cool season ; and when it is both dry and warm, the bilious remitting, or putrid bilious fever, is generated ; but it is much more common in the southern

than in the northern states.* In Carolina the country was found to be more sickly in every situation where the surface was recently broken up for agricultural purposes. In the county of Craven, a planter, during forty years, had been free from intermitting fever, in a situation where, in front of the house, a hundred acres were cultivated. On the other side was a thick wood, which being cut down in 1785, one third of fifty or sixty persons attached to this establishment were seized with intermitting fever.† In all the western parts of the state of New York, situated in a high latitude; the borders of the lakes and rivers have become subject to the intermitting fever since they have begun to be cultivated; and some places have been visited by a highly bilious fever, known by the name of *Lake Fever*, which has generally disappeared with the first frost.‡ The workmen employed in draining the *drowned lands* of Orange county, in the state of New York, in 1808 and 1809, were attacked, about the middle of August, with a malignant fever. They were chiefly Irish, of great bodily powers, and accustomed to similar labours in their native country. These lands are

* See Medical and Philosophical Register, Vol. I. p. 369.

† Williamson's History of North Carolina.

‡ American Medical and Philosophical Register, Vol. IV. p. 174.

about 30,000 acres in extent, with a deep rich soil, producing very luxuriant grass and plants, and in many parts covered with water in very dry seasons.* Such instances have occurred in different parts of the United States, in the progress of culture, where no endemic disease was ever before known to prevail. In Columbia county, in the same state, a mound was raised to confine the water of a stream, issuing from several little lakes, or ponds, two miles north-east of Kinderhook, for the purpose of supplying the machinery of an iron forge, and, after the escape of the water, the decomposed vegetable substance of the banks being exposed to the heat of a burning sun, created by its effluvia a malignant bilious fever, the atmosphere of which extended two miles in every direction from the focus, and terminated in the destruction of forty or fifty persons, notwithstanding this tract of country is remarkable for its salubrity.† Towards the southern extremity of the United States, below New Orleans, on the river Mississippi, a detachment of the American army, encamped, in 1809, on a damp soil, was nearly destroyed by a fever of an uncommonly putrid nature, which, however,

* American Medical and Philosophical Register, Vol. II. p. 8.

† Medical Repository of New York, Vol. VI. p. 9.

was augmented by the use of unwholesome provisions.

Though all low situations, when newly cleared, and marshy places exposed to the sun's rays, are subject to autumnal fever, yet, when covered with water they are quite healthy. But the most extraordinary fact respecting marsh miasms is, that their influence, in many places, is more sensibly felt on the summit of the neighbouring hill than on the very borders of the marsh from which they emanated. The high hills, near the *drowned lands* in Orange county, have been long subject, in autumn, to remitting and intermitting fevers. Those in the district of Washington, which rise to a considerable height above the marshes of the Potomac river, are subject to the same misfortune. The elevation, dryness, and distance of these eminences from the nearest marsh, give an idea of great healthiness, and deceive those who fix their residence upon them. An invisible and pestiferous vapour, which rises by its lightness, or is wafted by currents of air, hovers on the summit during the hot season, and soon paralyses the strongest constitution. This fluid, however, does not extend beyond the nearest range of eminences; the next are often perfectly healthy, as is evident from the appearance of the inhabitants, and the advanced age to which many of them arrive, with as little sickness as in any other country. Unfortunately,

the most unhealthy tracts being the most productive to the farmer, are cultivated with less expence, and besides, the water communication is always a sufficient inducement to settle on the borders of rivers, however low and marshy. This is the reason why the country has been generally considered as unhealthy, though the extent of low and unwholesome situations bears no proportion to that of elevated and healthy grounds which are yet unpeopled. Besides, the country is known to become more healthy in proportion to the time it has been under cultivation. The New England states are now generally free from fever and ague ; which was not the case for several years after the formation of the first establishments. This disease is now the torment of the inhabitants of the alluvial regions of the western country, particularly of those who come from Europe, until their constitutions are reconciled to the climate. But the limestone and hilly country is free from this afflicting disease. A late traveller* has given the following melancholy picture of its ravages: “ In the autumn of 1796, in a journey of 700 miles, I scarcely found twenty houses free from fever and agues. All the banks of the Ohio, a great part of Kentucky, the shores of Lake Erie, the Genessee country, and its

* Volney, Chap. X.

lakes and rivers, are annually infested by them. In a journey of 250 miles from Cincinnati to Detroit, begun on the 8th of September, in a company of twenty-five persons, we did not encamp one night without one, at least, of the party being seized with a periodical fever." From this description, a person unacquainted with the country would suppose, that the whole surface is unhealthy; and he would be confirmed in this opinion, when he is informed, that "a person is as old at fifty as in Europe at sixty-five or seventy." But, notwithstanding this, it is a well known fact, that the country above the last falls of the rivers is generally free from endemical disease; and there are many situations below this line which are also healthy.

A very late traveller says, "From my own observation, confirmed by the testimony of every competent evidence that has fallen in my way, I repeat with confidence, that the diseases so alarming to all emigrants, and which have been fatal to so many, are not attached to the climate, but to local situation. Hills on a dry soil are healthy, after some progress has been made in clearing, but deep and close woods are not salubrious, either to new comers or old settlers. All agree that the country becomes more healthy as it is more cleared and cultivated." *

* Birkbeck's Notes. London, 1817.

It is chiefly in the vicinity of half dry marshes, or on the newly cleared banks of rivers or lakes, that intermitting fever prevails; and similar instances occur in the finest countries of Europe, some of which are cited by Mr Volney himself. To mention only a few instances, the Pontine marshes of Italy have during centuries produced, by their putrid exhalations, a similar effect upon the human body. Lancisius, physician to Pope Clement XI., relates, that in the vicinity of Rome thirty persons of both sexes, and of the first rank, being on a party of pleasure near the mouth of the Tyber, the wind suddenly changed, and blew from the south across putrid marshes, and that such was its malignant effects, that all except one were suddenly seized with tertian fever. In England, in the island of Portsea, at Portsmouth, in the vicinity of stagnant waters, a continued or remitting fever was produced among the soldiers and marines in the month of August 1765, which was attributed to the putrid moisture of the soil, the long duration of easterly winds, and the uncommon and excessive heat, the mercury in Fahrenheit's thermometer often rising to eighty-two degrees in the middle of the day.* An inundation of the rivers

* Lind on the Diseases incidental to Europeans, &c. chap. i. sect. 1. Macmahon, (Patrick) M. D. Dissertation sur la Fièvre contagieuse simple. 1803, pp. 126.

in Hungary, which covered many parts of the country with stagnant waters, is said to have occasioned the loss of 40,000 of the Austrian army. * The annual overflowing of the Nile has produced the same effect from the earliest times at Alexandria and other places, and particularly after great heat and dryness; and it is remarked by Alpinus, who wrote about the year 1691, that strangers are more liable to be attacked, and perish sooner than the natives. The same fever has broken out among the crews of vessels at sea, owing to fatigue and the want of fresh vegetable food. The crew of the ship *Rattler*, consisting of twenty-five men and boys, were all seized with *yellow fever* in the month of August 1793, while cruising off the coast of South America in pursuit of spermaceti whales, in latitude 16° and longitude 100° . It is stated by the commander, Captain Colnett, that he was fortunate enough to recover them from this horrid disease by shaving the forehead, and rubbing the temples, &c. with a mixture of vinegar and water, and afterwards immersing the whole body in warm water to excite perspiration, then giving an *opening* medicine, and every four hours a dose of four grains of James's powder, a method which is practised by the natives of Spanish America. †

* Cattel and Gardet. *Essai sur la Contagion*. Paris, 1802.

† Colnett's *Voyage to the South Atlantic and round Cape Horn*. London, 1798. Chap. viii.

Consumption.—*Pulmonary Phthisis*, known generally by the name of *Consumption*, is also attributed to the climate ; though it is evident, from its prevalence in the great towns, that it is owing more to the increase of luxury. * The fashionable dresses of young females, the intemperate habits of the other sex ; and, in both, exposure of the body to sudden and great changes of temperature, after the exercise of dancing, and other amusements, are the chief causes of this fatal disorder. At Portsmouth, in New Hampshire, one-fifth of the cases in the bill of mortality for 1801 is of this description. The whole number of deaths was 100 ; those attributed to consumption twenty, from the age of thirty-two to sixty-nine.† In the city of New York the cases of consumption of the lungs occupy nearly one-fourth of the table of diseases for the year 1802 ;‡ and nearly one-fifth in the years 1803, 1804, and 1805. § In the year 1816 the number of consumptive cases was 678, exceeding by 60 what took place in 1815 ; but the city inspector || observes, “ that many cases were return-

* This is partly proved by the fact, that in the United States, as well as in England, this disease has become much more common in the course of the last century.

† See Medical Repository, 1802, p. 154.

‡ Ibid. Vol. VI. p. 443.

§ Ibid. Hexade 11. Vol. V. p. 32.

|| Dr Cumming.

ed consumptive which should have been reported under other heads, in children particularly. In adults also, many cases reported in like manner as consumptive, in reality spring from irregularities, which the feelings of relations and friends induce them to class under this general and sweeping complaint ; thus covering their infirmities from the public observation, from the operation of very natural and, perhaps, praise worthy motives." In some cases this disease may be organic, and communicated from the parent to the child ; but, according to the opinion of the best informed physicians, it is only contagious in the last stages.

Rheumatism.—This disease, owing to the sudden alterations of heat and cold, is common in the north-eastern parts, in the northern and middle states ; but it is often generated and confirmed by the habits of the people, frequent exposure to wet and cold in agricultural employments, or in the pursuits of the chase ; sitting before a blazing fire in the passage of a strong current of air entering by the open doors or windows ; sleeping in the woods ; and drinking immoderately of spirituous liquors. All these causes contribute to the prevalence of this malady, which, when it once takes possession of the body, is seldom eradicated. In the towns of Boston, New York, and Philadelphia,

where the habits are different, and pretty equal temperature is preserved in the houses, rheumatism is perhaps not more common than in Europe.

Dysentery.—This disease, which is very frequent in the tropical climates, has often shewn itself in different parts of the United States, in towns, villages, and in the country, after very warm weather followed by coolness and moisture, and especially after the use of unripe fruit ; but it is seldom fatal, and generally yields in a few days to the usual means of relief.

Premature Decay of Teeth.—The premature decay of teeth, or scurvy of the gums, is another disease which has frightened the European traveller ever since it was noticed by Kalm, the disciple of Linnæus. Though more common in the United States than in some parts of Europe, it is probably more owing to the great use of salt meat, and of warm tea, than to the climate. The Swedish traveller whom we have just named, has attributed it solely to the use of this beverage ; and Mr Volney, adopting the same opinion, remarks, that bad teeth is a general complaint in the north of Europe, while in Africa, Arabia, and India, they are fair and sound ; that the natives of America have generally good teeth, because their food is commonly cold ;

and that among the Oneida, Seneca, and Tuscarora tribes, the teeth have visibly decayed in the course of three years by the use of tea. Of the prevalence of this disease a sad picture is given. "You will scarcely find," says he, "one among ten persons under thirty years of age, whose teeth are entirely sound; and it is a cause of particular regret, that young and beautiful women, between fifteen and twenty, have generally their teeth disfigured with black spots, and the greater part of them gone." This description, however, like many others of the same author, is rather highly coloured, and must be received with some qualification.

It appears from the preceding facts and observations, that the climate of the United States is subject to sudden and violent changes of temperature; and that the rapid alternations of heat and cold, dryness and moisture, thus produced, acting upon the surface of the body, affect the perspiration, and create disorders in the system; but, upon the whole, it does not appear that they shorten the period of human life, more than in countries of Europe most favourable to its duration. The cold of the northern states is not injurious to health, and the great heat of summer is often refreshed by copious showers. There is more clear weather, more sunshine, and fine sky, than in most parts of

Europe. * In the village of Kinderhook, in the state of New York, in latitude $42^{\circ} 36'$, where the changes of weather are perhaps as great as in any other part of the United States, one male person died at the age of 105; two women, the one at 95, the other at 93; and three brothers, each above 90; another woman was in her 84th year and quite healthy. Two slaves, one a native of Africa, had lived about a century, and was still active.† In the remote southern climate of Carolina, Dr Ramsay gives the names and places of residence of 10 persons, who, in 1808, were aged from 100 to 110; of 13, from 90 to 98; of 12, from 80 to 89. But the most convincing proof is furnished by the general increase of population, which, notwithstanding the climate, exceeds that of all other countries, doubling itself in the period of 23 years.

In the physical, as in the moral world, there is a compensation of evils. If one disease is more frequent in the United States than in Europe, there are others less so, and some almost unknown. Consumption or ulceration of the lungs, which destroys both sexes in the morning of life, in the north-eastern states, scarcely ever occurs in the

* See a paper on this subject, by William Barton, Esq. in the third volume of the American Philosophical Transactions.

† See Medical Repository.

southern parts. The ravages of the yellow fever are confined to the crowded streets of the most commercial towns, and its victims are less numerous than those of the bilious putrid fever, or typhus, which sometimes runs over the whole surface of European countries. There is reason to believe, that the upper parts of the Carolinas and Georgia, and of Tennessee, do not yield to any situations in salubrity. The climate of the new state of Indiana, and of the Illinois, and Missouri territory, is also mild and salubrious, and there is no state, in which numerous situations may not be found favourable to health and longevity. A very distinguished writer on this subject has observed, that, in the neighbourhood of Mobile, Pensacola, and other places, in the most unhealthy parts of West Florida, there are several elevated situations, dry and exposed to the winds, which would afford a safe retreat from the diseases prevailing in the months of July, August, and September; and he infers from a number of facts, that the safest retreats, not only from the sultry heats and the inundations of the low country, but also from the sickness attendant upon them, are to be found on the sides of hills or mountains, where there are no morasses within three miles, providing a judicious choice is made of those situations which the vapours rising from the adjoining vallies are least likely to visit in their ascent. Experience

fully confirms the opinion, that, in such elevated and temperate situations, where the soil is dry, gravelly, and clear from wood, shrubs, or stagnating water, Europeans enjoy good health in the hottest climates during all seasons of the year. *

The author of the History of Carolina, John Lawson, who lived eight years in that province, and travelled through every part of it, observes, (p. 85, †) that he had heard, before he knew this new world, that the natives of America were a short-lived people, but from all the observations he could ever make, the reverse was the truth, for those who are born in that and in other colonies, live to as great an age as any of the Europeans, the climate being free from consumptions, a distemper so fatal in England; and as the country becomes more clear of wood, it still becomes more healthful to the inhabitants, and less productive of the ague, a disease incident to most new comers into America, yet not mortal. A gentle emetic seldom fails to drive it away, but if it is not too troublesome, it is better to let the seasoning have its own course, in which case, the person is com-

* Lind on the Diseases incidental to Europeans in Hot Climates, chap. ii. sect. 1 and 2. Philadelphia edition, from the sixth London edition, 1811.

† History of Carolina, by John Lawson, London, in large 8vo. 1718.

monly free from it for ever after, and very healthful.

*Books that may be consulted on Yellow Fever and other
Diseases of the United States.*

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vol. New York, 1814.
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pository.
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Communication of Contagious Diseases, &c.* in 4to.
pp. 84, 1815.

PART SECOND.

CHAPTER VIII.

MASSACHUSETTS. *

SITUATION.—Between $41^{\circ} 13'$, and $42^{\circ} 52'$ north latitude, and $3^{\circ} 20'$, and $6^{\circ} 55'$ east longitude from Washington.

Extent.—It extends from the Atlantic Ocean on the east, to the state of New York on the west, and its length, computed by the northern boundary, which separates it from Vermont and New Hampshire, is 130 miles; by the southern boundary, which separates it from Connecticut and Rhode Island, 190 miles. Its general breadth is about 50 miles; its greatest breadth 100; and near Cape Cod it contracts to about 15 miles.

Area.—6250 square miles.

* A name derived from a tribe of Indians which formerly inhabited the district. Till the Revolution the province was called *Massachusetts' Bay*.

Mountains.—Different ridges of mountains intersect the western parts, one of which, named Hoosack mountain, has an elevation of 3500 feet above the level of the ocean ; and Saddle mountain, the highest point of land in the state, rises to 4000 feet. Between these ridges the country is hilly, and, in many parts, incapable of cultivation. The western side of mount Holyoke, three miles from Northampton, is composed of basaltic columns, resembling those of the Giants' Causeway in Ireland, extending to the distance of ten or twelve rods, and rising to the height of from sixty to a hundred feet. The diameter of the prisms, which are truly hexagonal, is from two to five feet.*

Soil.—The predominating soil of the hills and mountains is a brown loam, mixed with sand, gravel, and clay. That of the plains covered with white pine is a light loam ; and in those covered with the yellow pine, it consists of sand and gravel. The valleys which have a rich soil are the only tracts free from loose stones and gravel. In general, the soil of the south-eastern counties is light and sandy, and not so favourable to the purposes of agriculture as the northern, middle, and western parts. The valley of the Connecticut river, from

* North American Journal. Boston, No. 3, p. 337.

two to twenty miles in breadth, is exceedingly fertile.

Temperature.—The climate of Massachusetts is much warmer in summer and colder in winter than in the same parallel of Europe; and the changes of temperature are more rapid. At Salem the difference, during the year, is nearly 115° of Fahrenheit; while at Rome it is but 84° , at Marseilles 69° , and at Padua 88° . The mean monthly variation is about 50° in January, and 34° in July. The daily variation in winter is about 8° ; in summer 12° or 13° . The mean temperature, or that of deep wells or caverns, has been ascertained to be nearly 49° . The winter commences about the middle of December, and terminates about the middle of March. During this period the ground is covered with snow, which, in the mountainous parts, is from three to four feet in depth. The thermometer (Fahren.) ranges generally between 43° and 10° , and the mercury has sometimes fallen to 20° below zero. On the 12th of February 1817, in some places, it sunk even to 30° , at sunrise. The ice of the rivers is sufficiently strong to bear loaded waggons; and sometimes the sea is frozen to a considerable distance from the coast. In 1807 the ice that floated down the Deerfield river was two feet nine inches in thickness, and the level ground, near the village of the same name, was frozen to the depth of three feet. This great

degree of cold was owing to the prevalence of the north-west winds, which pass over an extensive uncultivated and frozen country. The spring season is of short duration, terminating before the close of May; but during this period the progress of vegetation is uncommonly rapid. The heat of summer is often so great, that the mercury, for more than a month, at the commencement of the solstice, remains above 77° ; sometimes it rises to 86° and 90° , and in the year 1811 was observed, at Cambridge, at the height of $101\frac{1}{2}^{\circ}$. The temperature, both in summer and winter, and particularly near the sea coast, is liable to great changes. In the months of January and February it sometimes varies from 14° to 28° , in the course of twenty-four hours. Similar changes take place in summer. At noon the mercury is sometimes at 90° ; the ensuing night it falls to 60° . From the 1st of June to the 1st of October the weather, in common seasons, is sufficiently warm to render fires unnecessary. The autumn affords six weeks of a delightful temperature, and closes frequently with a period of two or three weeks of south-west winds, which has been called the Indian summer.

Winds.—It is observed, that the easterly winds, which forty years ago did not extend more than forty miles from the sea, now penetrate to the base of the inland mountains, a distance of from thirty to forty miles further. This is owing to the gradual

clearing of the surface, for they are found to proceed westward with the progress of agriculture. In the summer season, the cultivated surface is much warmer than that of the ocean, in the same latitude ; consequently, there is a current of air from the colder region. This change on the surface from cultivation will be of great advantage, as the prevalence of the dry westerly winds in summer is very injurious to vegetation. The most prevailing winds are from the west and north-west ; the next from the north-east and south-west. Their direction was noted in three different places, at Boston, Deerfield, and Warwick, during every month, except December, of the year 1807, and the north-west wind prevailed throughout, except in the beginning of June, in July, August, and in the first days of September ; in these, the wind blew from the south or south-west. During the other months, the wind is so very inconstant, that it seldom blows from the same point during twenty-four hours. In winter, when the weather is fair, the north-west wind is sixteen degrees colder than those from the east and south-east. In summer, the warmest wind is from the south-west, the coldest from the north-east and east.

Rain.—The annual mean quantity of rain at Cambridge, according to Dr Williams, is $47\frac{1}{2}$ inches, which is nearly one half greater than in many places of Europe ; and it appears that

the rains are also much heavier ; for at Cambridge, the number of rainy days was found to be 88, and at Salem 95 ; while in several places of Europe, where the whole quantity is less, the rainy days exceed 122. It is considered as a singular meteorological fact, that there is more fair weather, and a drier atmosphere, and, at the same time, more rain, than is known in almost any part of Europe. The annual number of fair days is 200 ; of cloudy weather, without rain, 100 ; of rain or snow, 60 ; of rain, 44. There is about one-third more of fair weather in the summer than in the winter. *

Earthquake.—The greatest shock ever experienced in this state took place on the 29th of October, at 10 P. M. It extended several hundred miles, and was most felt near Newbury.

Lakes.—The only lake worthy of notice, known by the name of Quinsigamond Pond, is seven miles in length, and in some places a mile in breadth. It contains several islands, one of which has an extent of 200 acres.

Rivers.—The chief rivers are the Connecticut and the Merrimack. The *Connecticut* river rises from two sources, in the northern part of the state of New Hampshire, and runs along its western bor-

* Memoirs of the American Academy of Arts and Sciences, Vol. III. No. 51.

ders 220 miles, forming the line of boundary with Vermont ; thence it flows through the state of Massachusetts, in a southerly direction, and in a circuitous course of sixty miles ; and afterwards intersects the state of Connecticut, pursuing nearly the same direction, for a farther distance of seventy-five miles, to its outlet in Long Island Sound. The whole length of this river is nearly 400 miles. Its breadth in Massachusetts and Connecticut is from 150 to 350 yards ; and farther north, where it forms the boundary between Vermont and New Hampshire, from 50 to 130 yards. The depth of the channel, from its mouth to the head of boat navigation, is from twelve to five feet. Vessels of any burden ascend to Hartford, fifty miles from the sea, and flat-bottomed boats of twenty tons to a place called Barnet, in Vermont, 270 miles from its mouth. This river has numerous falls and rapids, along which the navigation is continued by means of canals. In some places there are bars formed of gravel, which in low water render it fordable. The Connecticut river receives from the west and east a number of tributary streams.

Merrimack river, which rises in the mountains of New Hampshire, runs a north-easterly course of 40 miles, through Massachusetts to its outlet in the Atlantic Ocean, near Newbury-Port. Vessels of large size cannot ascend higher than Haverhill, 20 miles from the sea ; boats go as far as Salis-

bury, in New Hampshire, 100 miles from its mouth. The Merrimack has also numerous tributary streams, of which the most important are *Concord* and *Nashua*.

Ipswich river, which rises in the county of Middlesex, and runs a north-easterly course to the sea, is navigable as high as the village of the same name. *Charles* river, which also rises in Middlesex, and, after a course of fifty miles, empties into Boston harbour, is navigable for boats to Watertown, eight miles from the sea.

Bays.—*Massachusetts bay* is situated between Cape Cod on the south, and Cape Ann on the north. *Cape Cod bay* is situated to the south of the former, with which it has a communication. *Buzzard's bay*, to the south-west of the former, extends inward to a considerable distance.

Islands.—The principal islands are Nantucket and Martha's Vineyard, situated in the Atlantic. Nantucket, about fifteen miles in length, and four in breadth, situated at the distance of about eight leagues south of the peninsula of Cape Cod, has been generally represented as sterile, and fit only for the employment of fishermen; but it is now found to contain several thousand acres of arable land. This island constitutes a county of the same name; the population is about 6800.

Martha's Vineyard, seven leagues from the

former, about sixteen miles in length, and eight in its greatest breadth, has a light soil, which is in some places fertile. In conjunction with neighbouring islands of smaller size, it forms Duke's county, containing about 3290 inhabitants.

The climate of these islands is temperate and healthy, the winter is generally mild, and in summer the temperature seldom exceeds 80 degrees of Fahrenheit.

Minerals.—There are *iron ores* in different parts of the state; particularly in the counties of Plymouth, Bristol, and Berkshire. In the former *bog ore* forms the bed of several ponds. *Copper ore* is found at Leverett, in the county of Hampshire, and at Attleborough, in Bristol. *Galena*, or *lead ore*, is found at Southampton, in the county of Hampshire, and is wrought by a company, associated at Boston for that purpose. The vein is from six to eight feet in diameter, and extends from Montgomery to Hatfield, a distance of twenty miles. The produce of lead is from 50 to 60 per cent.* *Black lead* has been discovered at Brimfield in Hampshire; *sulphuret of antimony* near South Hadley; and *barytes* (sulphate) at

* Bruce's Mineralogical Journal, Vol. I, and North American Review, Vol. I, No. 3.

Hatfield and Northampton.* Marble of various colour, and rather coarse texture, has been found in Berkshire county, in Lanesborough, Sheffield, Dalton, and Pittsfield. At the last mentioned place a species of elastic marble has been lately discovered, a specimen of which, presented to the New York Philosophical Society, was four feet in length, three inches in breadth, and one in thickness. Another, afterwards procured by Dr Mitchell, was twenty-two inches in breadth, five feet in length, and two inches in thickness, containing a mass of 2640 cubic inches. The colour is of a snowy whiteness, and so great is its elasticity, that, when supported at the two extremities, it bends down by its own weight, and forms a segment of a circle, the depth of which is two inches. Exposed to heat, it loses its flexibility, which it recovers when plunged in water, according to the report of Dr Mead, by whom this property was first discovered.†

Slate.—There is a quarry in Bernardstown, in Franklin county, which is chiefly employed for tombstones. *Soapstone*, or *steatite*, exists in Middlefield, in the county of Hampshire, twenty-one

* Analysis by Dr Gorham :

Barytes, 58. 50. Sulphuric acid, 29. 83. Silix, 4. 0.
 Alumina, 2. 0. Water, 3. 0. Loss, 2. 67.

Memoirs of the Amer. Acad. of Arts and Sciences, Vol. III.
 No. 33.

† Bruce's Miner. Journal, Vol. I. pp. 93, 267.

miles west of Connecticut river, and is found in regular strata of five feet in depth. When taken from the quarry, it may be sawn with as much facility as hard timber. It is employed for building houses; and also for chimneys and stoves, being found to resist a common fire heat for many years.

Limestone abounds in the county of Berkshire, and is manufactured into lime for building and manure. *Sand*, of a white colour, is found in extensive beds, on a high hill in Cheshire, and is used for the manufacture of glass. Mixed with lime, it forms an excellent mortar for building. *Serpentine*, near Newbury port, of a deep or blackish green, and very beautiful. It is found in beds of granular limestone. *Turkey*, or *whitstone*, is found at Dorchester, presenting alternate strata of white and brownish red. *Ochres*, yellow and red, and pipe clay, have been found at Martha's Vineyard. *Anthracite*, or *blind-coal*, which is used as a pigment, is found near Worcester.

Mineral Waters.—Those in the town of Sym, in the county of Essex, are most frequented. The mineral waters in Boston and in Brighton, about five miles distant from each other, are said to possess qualities similar to those of Ballstown. None of these waters have been properly analyzed.

Vegetable Kingdom.—*Forest Trees*.—The hilly and mountainous country produces oak, walnut,

pine, birch, maple, ash, cedar, cherry, chestnut, poplar, bitternut, and boxwood. The pine is almost the only tree that grows in the plains. The vallies and banks of the rivers produce elm, cherry, maple, buttonwood, aspen, and bitternut. The red cedar is found on a dry, gravelly, and almost barren soil; the white species, in low marshy situations, called *Cedar swamps*. In 1736, a white pine was cut, a little above Dunstable, near Merrimack river, the thick end of which was seven feet eight inches diameter. Colonel Dudley, in his surveys of new townships, about 50 or 60 miles inland, observed white ash trees strait and without branches, for about 80 feet, and about three feet diameter at the thick end.*

List of the Principal Forest Trees.

Ash, mountain,	-	-	-	<i>Sorbus aucuparia.</i>
— white,	-	-	-	<i>Fraxinus Americana</i> , Mich.
Aspen, American,	-	-	-	<i>Populus tremuloides.</i>
Beech tree,	-	-	-	<i>Fagus ferruginea</i> , Ait.
Beaver tree,	-	-	-	<i>Magnolia glauca</i> , L.
Birch, common white,	-	-	-	<i>Betula populifolia</i> , Ait.
— black, or mahogany,	-	-	-	— <i>lenta</i> , L.
Butternut, oilnut,	-	-	-	<i>Juglans cinerea</i> , L.
Cedar, red,	-	-	-	<i>Juniperus Virginiana.</i>
— white,	-	-	-	— <i>thioides</i> , L.
Cherry, wild,	-	-	-	<i>Prunus Virginiana</i> , L.

* History of British America, Vol. I. 208-9.

Chestnut tree, - - -	<i>Castanea vesca</i> , Wild.
Cornel, dwarf, - - -	<i>Cornus Canadensis</i> .
—— white berried, -	—— <i>alba</i> .
—— broad leaved, - -	—— <i>circinata</i> .
Dogwood tree, - - -	—— <i>florida</i> , L.
Elm, common, - - -	<i>Ulmus Americana</i> , L.
Hazel, common, - - -	<i>Corylus Americana</i> , Walt.
Hickory, or white walnut, -	<i>Juglans alba</i> , Wild.
—— shell bark, - - -	<i>Juglans squamosa</i> , Mich.
Iron Wood, or hop hornbeam,	<i>Ostryia Virginica</i> .
Larch, red, - - -	<i>Laryx Americana</i> , L.
Lime tree, or bass wood, -	<i>Tilia Americana</i> .
Maple, red or swamp, -	<i>Acer rubrum</i> , L.
—— rock or sugar, - - -	—— <i>saccharinum</i> , L.
Oak, white, - - -	<i>Quercus alba</i> , L.
—— black, - - -	—— <i>tinctoria</i> , East.
—— scarlet, - - -	—— <i>coccinea</i> , Mich.
—— red, - - -	—— <i>rubra</i> , L.
—— shrub, - - -	—— <i>banisteri</i> , Mich.
Pine, pitch, - - -	<i>Pinus rigida</i> , L.
—— white, - - -	—— <i>strobis</i> , L.
—— black, or double spruce,	—— <i>nigra</i> , Mich.
—— hemlock spruce, -	—— <i>Canadensis</i> , L.
Plane tree, buttonwood, or Sy-	
camore, - - -	<i>Platanus occidentalis</i> , L.
Tupelo tree, or swamp hornbeam,	<i>Nyssa villosa</i> , Mich.

ANIMAL KINGDOM.

Quadrupeds.—The panther, wild cat, wolves, and bears, have retreated to the mountains, and seldom appear in the low country. In 1814, a male and female wolf visited Springfield, and some neighbouring towns, where they destroyed a hundred

and fifty sheep; but no circumstance of this kind had before occurred during half a century. The wood chuck burrows in the ground, and destroys the crops. The grey, * striped, † and flying ‡ squirrels are numerous.

Fishes.—The bays and rivers abound with salmon, mackerel, and other kinds of excellent fish. The salmon are daily becoming more rare, and have disappeared in some rivers, owing to the erection of dams and mills. The shell-fish on the coast are the lobster, (*Cancer hamarus*, L.,) scollop, (*Ostrea pectines*,) and the clam, (*Venus mercenaria*.) There is a species of shell-fish known by the name of horse-shoe, or king's crab, § which is sometimes a foot in breadth.

The whale fishery occupies most of the inhabitants of Nantucket. In 1811, the number of sailors amounted to 1200, and there were established on the island from 15 to 20 manufactories of oil and candles.

The whales, of which great numbers were formerly taken in the bay, have become rare; but a species of this genus, called the *black fish*, weighing about nine tons, arrives there in shoals, and yielding an oil resembling that of the whale. By means of boats they are driven on the flats, where,

* *Sciurus cinereus*, L.

‡ *Sciurus volans*, L.

† *Sciurus striatus*, L.

§ *Monoculus polyphæmus*, L.

left by the tide, they fall an easy prey to their pursuers. Cod and haddock, pollock, mackerel, and herring, frequent the inner coast of the bay. The two first are taken with the hook; the others with the seine. Cod, halibut, sturgeon, shad, herring, bass, eels, and other fishes, swarm around Nantucket islands.

Insects.—Among the insects injurious to agricultural productions, is a species of grasshopper, known by the name of locust, which, in May 1817, overran some counties, destroying every kind of herbage. It was of the size of a grain of rye, it had a black head, was from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in length, and was supposed to be the migratory locust of Linnæus, (*Gryllus*.)

POPULATION.

				<i>Progress of Population.</i>
In 1731,	-	-	120,000	Including blacks.
1742,	-	-	164,000	_____
1753,	-	-	220,000	_____
1763,	-	-	241,024	5214
1784,	-	-	357,510	4377
1790, by the <i>census</i>			378,787	5463
1800,	-	-	422,845	6452
1810,	-	-	472,040	6737

This table gives an increase, in these last ten years, of 49,195 only, or $11\frac{6}{10}$ per cent. nearly. The smallness of this increase is attributed to the emigration to the state of New York, and the west-

ern country, which is greater from this than from any other state. Massachusetts, in 1810, was the fourth state in point of population; in 1790, it was the second.

Free white males under 10 years of age, in 1810, 68,930

Females, - - - 66,881

Males of 10, and under 16, - - 34,964

Females, - - - 33,191

Males of 16, and under 26, - - 45,018

Females, - - - 46,366

Males of 26, and under 45, - - 45,894

Females, - - - 49,229

Males of 45 and upwards, - 34,976

Females, - - - 39,894

Males, - - 229,742

Females, - - 239,561

Excess of Females, - 9,819

The number of slaves was, - 6,737

Diseases.—Notwithstanding the great extremes of heat and cold, and the sudden changes of temperature, the climate is not unfavourable to health and longevity. The inhabitants are of a good stature, and have a healthy complexion. The farmers lead an industrious and frugal life, though, of late, the use of spirituous liquors has increased, to the great injury of health. The consumption of cider, molasses, and spruce-beer, * is still, how-

* Made of the top branches of the *Pinus Canadensis*, or pine of Canada.

ever, greater in this than in any other state. The dress and manner of living, in all classes of society, resemble those of the corresponding classes in England. That of females, in winter, is too light for the climate; and is probably the great cause of the increase of consumption. Small pox and dysentery are said to have decreased; and yellow fever has not appeared for twenty years past. A part of the state, by its natural position, is free from this afflicting disease, which has never existed above the 43° of latitude. Diseases are much more frequent than formerly. The following is a copy of the bill of mortality, in Boston, for the year 1814, when the population was thirty-four thousand.

<i>Deaths,</i>	-	-	727
Age under 1 year	-	-	161
1 to 2	-	-	76
2 to 5	-	-	33
5 to 10	-	-	28
10 to 20	-	-	35
20 to 30	-	-	114
30 to 40	-	-	87
40 to 50	-	-	56
50 to 60	-	-	33
60 to 70	-	-	25
70 to 80	-	-	27
80 to 90	-	-	21
90 to 100	-	-	1
			<hr/> 727

Of this number 399 were males and 328 females. The greatest number of deaths was in October, amounting to 100 ; the least, in June, 40.

The diseases, and the number of persons who died of each, were as follows : Consumption 193, typhus fever 77, other fevers 44, infantile diseases 208, old age 39, still born 32.

Habits and Character.—The growth of population and intercourse with other people have effaced much of that severity of character which long distinguished the people of New England. The nubile state of the female sex is from sixteen to twenty years. That of men from eighteen to twenty-five ; and the marriage vows are religiously observed. The amusements of winter are balls and sleighing. Those of summer are fishing, walking in the evening, or riding on horseback. Tea parties are held at an early hour, and, like the Italian *conversazioni*, are extremely social and interesting. In the upper circles they are of late years more fashionable, and seldom commence before eight or nine o'clock.

The people of this state are strict in their attention to religious worship, which is considered as an affair of conscience, with which no authority has a right to interfere. How different was the character of the first colonists, who expelled from the province all those who refused to adhere to the tenets of the ecclesiastical court. Anabaptists, Je-

suits, and Quakers, in 1644, were banished as “ incendiaries of the commonwealth, the infectors of persons in main matters of religion, and the troublers of churches, in all places where they have been.” “ Every person who imported, dispersed, or concealed Quakers’ books, or writings concerning their devilish opinions, forfeited L. 5 of lawful money, for open contempt of God’s word. The offender was obliged to pay this sum to the public treasury, or to stand two hours, upon a block, or stool, four feet high, on a lecture day, with a paper fixed to his breast, written in capital letters, “ *An open and obstinate contemner of God’s holy ordinances !*” * Nobody is forced to go to church ; but greater respect is paid to those who do. The English is the only language in use.

Eminent Persons.—Benjamin Franklin, Samuel Adams, John Adams, John Hancock, General Knox, General Lincoln, and Fisher Ames, all natives of this state, have added to its celebrity by their superior talents and patriotic virtues.

Mr Dickinson, in his View of this state, observes, “ that, from the almost equal division of the two political parties, the asperities of language and disposition attending political conflicts, have existed in

* Laws of Massachusetts Bay. Edit. 1672, folio 43. Also Hazards’ Collection of State Papers, Vol. I. p. 488 and 538. Massachusetts Records, 14th Oct. 1656.

a high degree, and been represented by strangers as having extensively undermined the confidence of society, and laid waste most of the blessings of private life ; but this representation," he observes, " must be understood with great limitations, as, notwithstanding, personal merit is duly estimated ; and among those of opposite sentiments there are intermarriages, and a free interchange of relative duties."

Capital crimes are rare ; and it is stated by Dr Morse, that, " in 1812, the number of prisoners in the states' prison or penitentiary did not amount to 200. In a Massachusetts prison $\frac{19}{100}$ of those it contains are said to be foreigners."

In 1786 the new plan of taxation furnished a pretext for insurrection, which was chiefly confined to the western counties, particularly that of Hampshire. The leader was Daniel Strays, who, the ensuing year, surrendered to General Shepard, the commander of the militia employed to suppress the revolt.

History and Civil and Military Organization.—This coast was visited by John Cabot and Sir Francis Drake, and was known to the *Basque* fishermen ; but no plan of colonization was proposed until the year 1602, when Bartholomew Gosnold, sailing from Dartmouth in England, in a western instead of a southern direction, arrived at Cape Cod, and fell in among the islands on the northern

coast of Massachusetts Bay, in a course shorter, by 1000 leagues, than that by the Canaries and Caribbee Islands. Trafficking with the natives of Elizabeth Island and Martha's Vineyard, he gained their friendship, and was enabled to penetrate to some distance from the coast, and to procure various productions of the country, which induced the merchants of Plymouth, Exeter, and Bristol, by whom he was employed, to form an establishment in this country, then included, with the whole coast from Florida to Nova Scotia, under the name of Virginia. Another establishment was formed in 1606, by some rich merchants of London, and letters patent were granted by James I. to two distinct companies, under the title of first and second colony of Virginia, the one to possess 100 miles of country between the thirty-eighth and forty-ninth degrees of north latitude, the king reserving to himself a fifth of all the mines which might be discovered. The former was called Northern, the latter Southern Virginia. In the year 1606, a vessel sent by the Plymouth Company, under the command of Henry Challon, was captured by the Spaniards near the Antilles. This circumstance so dispirited the company, that they felt inclined to abandon the project ; but a vessel dispatched, in 1608, by Sir Henry Popham, at his own expence, encouraged them to fit out two others, with 100 men, who, landing in safety, commenced an estab-

lishment at the mouth of the river Sagadahock. Its growth, however, was soon checked, by the death of this gentleman. In 1614, the coast of Massachusetts was explored by Captain John Smith, president of the colony of Southern Virginia, who, presenting a survey thereof to the king, the country received the name of New England. In 1619, two vessels arriving on the coast, found the Indians hostile; and the company, again dispirited, did nothing more than grant particular privileges to private merchants for the purpose of traffic, until the year 1621, when 120 families of the non-conformists, who had fled to Holland, landed at Cape Cod, in the middle of November, where, owing to the severity of the weather, they were obliged to remain. This place not being included within the grant of the company, nor belonging to any European power, the colonists, by a public act, declared themselves subjects of England, and mutually bound themselves to the strict observance of the laws which should be made, by common consent, for the good of the colony. John Carver was elected governor for a year, by the heads of families who signed the act, forty-one in number. Soon after a convenient post was chosen in the bay, for the purpose of forming an establishment, to which they gave the name of New Plymouth. So slow was its progress, that in 1629 it did not exceed 300 persons. In order to secure this possession,

their governor, William Bradford, was sent to England to solicit a grant of the country in his own name, which was effected ; and the right or title was afterwards purchased by the people, by which mean they became the lords. The arbitrary and intolerant principles of the ambitious Laud, and other English bishops, and the fear of the Protestant inquisition, “ the *High Commission*,” who condemned to exorbitant fines, to prison, and to banishment, according to the will or caprice of their superior dignitaries, induced the non-conformists to seek in the New what was denied them in the Old World,—liberty of conscience ; and in 1628, John White, minister of Dorchester, having obtained a patent from the Plymouth Company for an establishment in Massachusetts Bay, arrived there the 24th of June, with ten vessels, having on board 350 persons, 115 head of cattle, goats and rabbits, six pieces of cannon and warlike ammunition, and laid the foundation of the town of Salem. The following year, a fleet of seventeen sail arrived, with persons of both sexes, and of every rank, servants purchased at from L. 16 to L. 20 Sterling each, live cattle, provisions and stores. The want of wholesome provisions, and the fatigue and rude life to which the first planters were subjected, produced fever and scurvy, of which several died ; but those who survived, animated by the possession of religious and civil liberty, laid the foundation of several

towns, gave freedom to the bondsmen, and established courts, and a form of government.

In 1643 Massachusetts united with Plymouth, Connecticut, and Newhaven, in a confederation, under the title of “ *The United States of New England ;*” and, in 1685, her charter was withdrawn, and the colony placed under the direction of a president, in conjunction with those of Maine, New Hampshire, and Rhode Islands. In the 4th year of King James another charter was granted, created by a judgment, in 1684, by which the people were empowered to choose their officers, except those of the customs and admiralty. Three years afterwards, in the 3d of King William and Queen Mary, a new charter was granted, by which Plymouth, New Brunswick, Nova Scotia, and Maine, were annexed to Massachusetts, and a governor and council were appointed by the crown. The governor, with the consent of the council, appointed the judges, marshals, justices of the peace, and the officers belonging to the council and courts of justice. Other civil officers were chosen by the council and assembly. The freeholders elected their representatives, who chose their speaker and council, and formed the upper house. The general court, composed of the governor, council, and house of representatives, was a court of equity and of appeals, besides exercising legislative functions.

The country, for some time after the first settlements, was occupied by various tribes of Indian nations; Mohegans, Mohawcks, and others, who were so much dreaded by the colony established in the province of Maine, that they sought protection from that of Massachusetts; and hence the political union of two provinces, naturally separated by the southern extremity of New Hampshire.

In 1765 Massachusetts colony determined to resist the encroachments of parliament, and invited the other provinces to unite for the purpose of obtaining redress of grievances. In consequence of this measure, the general court was dissolved by the governor, and a convention called. The duties on tea had excited great complaints, and in one instance a cargo of this article was thrown into the harbour. The legislature was converted into a provincial assembly, an army created, and the battle of Lexington fought in 1775.

Civil or Administrative Division of the State of Massachusetts, with the Population of each County and Chief Town, in 1810, the Year of the last Enumeration.

Counties.	Townships.	Population.	Chief Towns.
Barnstable,	14	22,211	Barnstable.
Berkshire,	32	35,907	Stockbridge, 1,261
Bristol,	16	37,168	Taunton.

Counties.	Townships.	Population.	Chief Towns.	
Duke's,	3	3,290	Edgardton,	1,369
Essex,	23	71,888	{ Salem,	12,612
				Newbury Port, 1,634
Franklin,				
Hampden,				
Hampshire,	64	76,275	Springfield,	2,767
Middlesex,	44	52,789	Concord,	1,633
Nantucket,	2	6,807	Sherburne.	
Norfolk,	22	31,245	Dedham.	12,172
Plymouth,	18	35,169	Plymouth,	4,228
Suffolk,	2	34,381	Boston,	33,250
Worcester,	51	64,910	Worcester,	2,577
<hr/>				
14	291	472,040		

Constitution.—In the year 1684 the first charter of Massachusetts Bay was granted by King James the Second, by which the people, in virtue of a judgment in chancery, were empowered to elect all their own officers, except those of the admiralty and customs. In the third year of King William and Queen Mary, another was obtained, which reserved to the crown the appointment of the governor, lieutenant-governor, secretary, the officers of the admiralty and of customs. The governor, with the consent of the council, appointed the judges and other officers of the courts of justice, and of the council; others were appointed by the council and assembly. The upper house of legislature, or house of representatives, elected by the freeholders, chose the speaker and council. The ge-

neral court consisted of the governor, council, and the house of representatives; and was a legislative court, a court of equity and appeals.*

The republican form of government was published, and had the force of law in the year 1780, (2d March.) The legislative power consists of a Senate and House of Representatives, which united form the General Assembly, or General Court of Massachusetts.

Senators.—The senators, forty in number, are elected annually in districts, by the male inhabitants of twenty-one years of age and upwards, living and having a freehold estate within the commonwealth, of the annual income of three pounds, or any estate to the value of sixty pounds. No person can be elected a senator who is not possessed of a freehold estate to the value of three hundred pounds, or of personal and freehold property worth twice this amount.

Representatives.—The representatives are also elected annually by voters, who have the same qualification as for senators, and by corporate towns in proportion to the number of inhabitants. A representative must have resided one year in the town he represents, and there possess a freehold of a hundred pounds, or two hundred of

* See Hutchinson's and Chalmer's Histories of Massachusetts Bay.

any rateable estate. When a town is found to contain 150 rateable polls, it is entitled to one representative ; when the number increases to 375, it has a right to two ; and to an additional member for every 225 additional polls.

The *Executive power* is vested in a governor, lieutenant-governor, and nine councillors. The two first officers are chosen annually, on the first Monday of April, by persons qualified to vote for senators and representatives. The councillors are also chosen annually, by the joint ballot of the two houses, from among the persons returned as councillors and senators ; and the place of those who refuse to serve is supplied from the mass of the people.

The supreme executive magistrate, or *governor*, who has the title of *excellency*, must have a freehold property in the state of a thousand pounds, and declare his sincere belief of the Christian religion ; he must also have resided in the state seven years immediately preceding his election. The governor is commander in chief of the naval and military forces of the state ; and, with the advice and consent of the council, which he can assemble at discretion, he is empowered to appoint the attorney and solicitor-general, and other judicial officers ; also to grant pardon for offences, except such as have been tried and decided before the senate, by an impeachment of the house. All

commissions are signed by him, and attested by his secretary.

The *lieutenant-governor*, who is a member of the council, and styled his "honour," has the same qualifications as the governor, as to religion, property, and residence; and, when the chair of governor is vacant by death or absence, he has also the same powers and authority.

The members of the council are next in rank to the lieutenant-governor; not more than two are chosen in the same district. The governor assembles them at his discretion, and five, with him, make a board. The powers and authority of the governor and lieutenant-governor, in case of death, absence, or other cause, devolve upon the councillors. The legislature assemble twice a-year, in May and January. A bill cannot be passed into a law without the assent of the governor, unless, after his refusal, it be reconsidered and approved of by two thirds of both houses.

The constitution contains a declaration of rights, consisting of thirty articles, which embrace all the great principles of civil and religious freedom.

Slavery, declared to be unjust, was abolished by this instrument, and afterwards by an act of the legislature. Though the proprietors of slaves were not compelled to set them free, there have, for a

long course of years, been no slaves in New England.

Judiciary.—The judges are appointed by the governor and council, and, for misbehaviour, are liable to removal from office by the authority from which they hold their commission, if demanded by both houses of legislature. There is a supreme judicial court, and three circuit courts of common pleas. All the English provincial laws are preserved, except such as were found to be in opposition to the rights and liberties established by the new government. The opinion of the supreme court, on any important question, may be demanded by either branch of the legislature, or by the governor and council. *Justices of the peace* are appointed for the term of seven years by the council; and if they are found to have faithfully discharged the duties of the office, their commission may be renewed. Appeals from the *judges of the probate of wills* go to the superior court, and are there finally judged.

The judiciary officers of the United States, for the state of Massachusetts, are :—a district judge, with a salary of 1000 dollars; an attorney, with 200; a marshal, with 200; a clerk, with fees. *

* Register of the United States, for 1816, p. 13.

Finances.—The revenue is principally derived from an annual tax on real and personal estates, and a capitation tax on all male persons, of sixteen years and upwards. Six per cent. is paid on the actual value of all rateable estates, both real and personal, except wild or uncleared lands, on which the rate is two per cent.

*List of the Officers of the State of Massachusetts,
with their annual pay.*

	Dolls.	Cents.
The governor, - - -	2,666	66
The lieutenant-governor, - - -	533	34
The chief justice, - - -	3,500	0
Four associate judges, 3000 each, -	12,000	0
Secretary and clerks, - - -	5,800	0
Treasurer and clerks, - - -	4,600	0
Attorney-general, - - - -	2,000	0
Solicitor-general, - - - -	2,000	0
Adjutant-general and clerks, - -	3,500	0
Quartermaster-general and clerks, -	2,700	0
Reporter, - - - -	1,000	0
Judge of probate of wills, - - -	750	0
State prison visitors, - - - -	300	0
Clerks of the senate, salary, and grants,	925	0
Clerk of the house, salary, and grants, -	600	0
Reporter of debates, keeper of the state-house, messengers, and assistants and pages,	4,000	0
	<hr/>	
	16,875	0

Expenditure.

Salary of officers, brought forward,	46,875	0
Committee on accounts roll, -	80,000	0
Average of pay rolls, last five years, -	58,000	0
Quartermaster-general's department, -	13,000	0
State prison, - - -	10,500	0
Interest on 5 per cent. stock, - -	27,500	0
Sundry balances to country treasurers, pensions, incidental expences, and grants, -	29,000	0
Interest on loans from bank, estimated as they now stand, 130,000, - -	6,500	0
Interest on loan for defence, - -	50,760	0
Total of annual expenditure, -	322,135	0

Revenue.

State tax, - - - -	133,333	33
Bank tax, - - -	113,000	0
Bank dividends, - -	60,000	0
Total of annual revenue, -	306,333	33

The bank's dividends are stated at 6 per cent. although, during the war, they did not produce so much.

Military Force.—The militia, or military force, is composed of all able-bodied white male citizens, from eighteen to forty-five years of age, except clergymen, schoolmasters, seamen, and persons who hold a military commission, or important civil office under the general or state government. The

militia, in 1812, was composed of 13 divisions, and 28 brigades.

Infantry,		40,941
Artillery,	-	2,435
Cavalry,	-	2,089
Aggregate,	-	<hr/> 45,465

Internal Government.—The state is divided into districts or townships of unequal size, the largest six miles square, each of which has a local jurisdiction with regard to the management of its own affairs. The municipal police is exercised by magistrates, called select men, who are bound to attend to every thing which concerns the safety and welfare of the citizens. Town officers are elected by the male citizens of twenty-one years and upwards, who pay taxes, and have resided one year in the town in which they vote.

Public Instruction.—Great praise is due to the inhabitants of this state for the liberal spirit manifested in their scientific and literary institutions, and particularly for the organization and support of free schools, where poor children of both sexes may be instructed in reading, writing, and arithmetic. Every town having fifty householders is obliged to provide a school of this description; and when the number increases to two hundred families, the town or district is obliged to establish another for the instruction of youth in the Latin,

Greek, and English language. Neglect of this statute * is punished by a pecuniary fine, proportioned to the time of neglect and number of inhabitants, at the rate of ten pounds currency for every fifty families ; so that the penalty for one hundred and fifty families is thirty pounds. The limits of school districts are determined by town meetings ; and the assessment and collection of taxes, for the support of such schools, is provided for by a law of the 28th February 1800.

Harvard † *College*, endowed with extensive funds, was founded in 1638, and incorporated in 1650, under the direction of a board of overseers, consisting of seven persons, who, after the declaration of independence, were succeeded by a new board, composed of the governor and lieutenant-governor, the members of the council and senate, and the congregational ministers of six towns. They choose their officers, and fill up vacancies in their own body. The ordinary government is vested in the president, professors, tutors, regent, librarian, and two proctors, who watch over the conduct of the students, and enforce the execution of the laws. The college consists of seven

* Of 29th June 1789.

† So called in honour of the Rev. John Harvard of Charleston, who left to this establishment his library, and one half of his fortune, amounting to L. 779 Sterling.

spacious buildings, and contains an excellent library of 17,000 volumes, philosophical apparatus, and a museum of objects of natural history. In 1811, the number of matriculated students was 255. In 1806, that of undergraduates was 280. The period of study requisite for the degree of Bachelor of Arts is four years. Degrees are conferred on the last Wednesday in August.

The *Medical Institution* of Harvard College was established in 1782. The fees of the classes are moderate. This is the oldest college of the United States. From its establishment to the year 1800, the number of graduates amounted to 1674, of whom 1158 were destined for the church.* In 1814, the legislature gave the college 100,000 dollars, to be paid in annual instalments of 10,000 dollars. The whole productive funds of the college in 1813 were about 55,000, the college buildings not included. Various donations have served to increase the funds of this establishment. Edward Hopkins, an English gentleman, left a fund for the support of six resident bachelors of arts, to be named by the corporation, and who are obliged to deliver in the chapel four theological essays ; two in Latin, and two in English.†

* Morse, last edition.

† In 1636, the General Court granted L. 400 to erect a college within the commonwealth, which was established at

The late Governor Bowdoin left L. 400 Sterling, of which the interest is given as premiums for

Cambridge in 1642, and called Harvard College. A board of overseers was afterwards established in 1650, and the charter of the corporation granted. In 1657, Edward Hopkins bequeathed 2666 dollars for the use of this college, and 888 for that of the grammar school in Cambridge, "for the breeding up of youth in the way of learning, for the public service of the country in future times," and "for the upholding and propagating of the kingdom of the Lord Jesus Christ" This donation was invested in lands in the vicinity, of which 12,500 acres were to be leased out to tenants, at one penny sterling an acre, to be paid annually to the college to the year 1823, and threepence afterwards; and the residue to be divided among them, in order to enable them the better to pay the quit-rents.* In the work entitled "Wonder-Working Providence," (p. 165-6,) it is stated, that "the chief gift towards the founding of this college was in 1651 by Mr John Harnes, a minister. The public treasury, which was in a low state, expended about L. 500 towards it; and for the maintenance thereof, gave the yearly revenue of a ferry passage between Boston and Charlestown, amounting to about L. 40 or L. 50 per annum. The commissioners of the four united colonies, also, taking into consideration of what uncommon concernment this would be, not only to the whole plantation in general, but also to all the English nation, endeavoured to stir up all the people in the several colonies to make an yearly contribution towards it, which by some is observed. but by the most very much neglected. This college has brought forth and nurst up very hopeful plants to the supplying the churches,

* Howe's (Rev. Nathaniel) Century Sermon, delivered in Hopkinton, 24th Dec. 1815.

the advancement of literature to the graduates and under-graduates. In 1814, a donation of 20,000 dollars was made by an unknown citizen for the purpose of endowing a professorship of Greek literature, which was established the ensuing year. In the year 1814, the late Count Rumford left funds for a new professorship, for the purpose of "showing by public lectures, and proper experiments, the utility of the physical and mathematical sciences, for the improvement of the useful arts, and the extension of the industry, prosperity, happiness, and well-being of society." These funds consist of incomes and reversions, the capital of which is said to amount to between 30,000 and 40,000 dollars. In 1815, an opulent merchant of Boston * bequeathed 20,000 dollars for the purpose of maintaining a teacher, or professor, of the French and Spanish languages, or of the French only. Of this donation 10,000 dollars consists of six *per cent.* stock of the United States, and 20,000 of three *per cent.*

"Besides the professorships formerly existing of divinity, of anatomy and surgery, materia medica

and the number of students is much increased of late, so that the present year, 1691, ten of them took the degree of Bachelor of Arts, among whom the sea-born son of Mr John Cotton was one."

* Abiel Smith, Esq.

and chemistry, theory and practice of physic, of mathematics and natural philosophy, of logic and metaphysics, of Latin, Greek, and the oriental languages, there have been added, in the course of the last ten years, six new professorships, and three schools or faculties to this university, as follows : 1. A professorship of natural history, with a botanic garden, founded by a private subscription. The garden has been laid out several years in a pleasant situation, about half a mile from the colleges, and is intended, among other purposes, to serve as a nursery of American vegetable productions. 2. The professorship of rhetoric and oratory, founded upon a donation of Ward Nicholas Boylston, Esq. The first professor on this foundation, the present secretary of state of the United States, was inducted into office in 1806, and continued to discharge its duties till sent as minister to Russia. His lectures, in two volumes 8vo, have been published. 3. A professorship of Greek literature, in addition to a professorship and tutorship already existing in this department, was founded in 1814, by the donation of an unknown benefactor in Boston. 4. An establishment was made in 1815, in pursuance of the legacy of an opulent merchant of Boston, "for maintaining a teacher or professor of the French and Spanish languages, or of the French only." 5. A professorship was founded in 1816, in consequence of the legacy of the late Count Rumford,

of which the object is the application of the physical and mathematical sciences to the useful arts. 6. A professorship of natural theology and moral philosophy was founded in the year 1817. To increase the means of professional education, the following establishments have been made: 1. An enlargement and extension of the *medical school*. This branch of the University has been removed to the capital, where a new theatre has been erected for its reception; a professorship of clinical medicine, and lectureships on materia medica and botany, have been also added to this faculty. 2. A theological school has been attached to the University, and partly by the aid of a subscription of public spirited persons, provision has been made for the support and instruction of theological students. There are six lectureships in this department. Some years previous to this a lectureship of biblical criticism had been founded by the late S. Dexter, senior. 3. A law school has been instituted for the education of persons destined to the bar. Two professorships exist in this faculty, of which one is filled by the chief-justice of the state. The library of the University is, in size, surpassed only by the Philadelphia library; in value is probably equal to it; and it is constantly receiving large additions. Some works are found in it which are rare even in the choicest European collections, as a large paper copy of Walton's Polyglott, formerly in the library of Lord

Clarendon. Of these copies twelve only were struck off, of which no more than five or six can at present be traced. The University of Cambridge furnishes instructors and teachers to the most distant parts of the south and west, and has had much influence * in exciting and preserving in the state a pure taste in ancient literature, and attachment to severe studies. In general, this University, for the extent of its funds, the richness of its library, the number and character of its establishments, and the means it affords of acquiring not only an academical but a professional education, is without an equal in the country.” †

Williams’ ‡ *College*, at Williamston, in the north-western part of the state, has considerable funds. The number of students is about 120. The college is under the direction of a corporation of fifteen members, one of whom is the president. There is a professor of law and civil polity, of mathematics and natural philosophy, and three tutors. The college consists of two buildings. The commencement is on the first Wednesday in September. In the year 1814, the government of the

* See Walsh’s American Register, Vol. I. Introduction.

† This article on the present state of the college was furnished by one of its professors.

‡ So named in honour of its benefactor, Colonel Ephraim Williams.

state voted the sum of 160,000 dollars for the support of Harvard College, Williams' College, and Brunswick College, in the district of Maine, of which 100,000 were appropriated to the two former.

Philips' Academy, in Andover, (at the distance of twenty miles from Boston,) was incorporated in 1780, and is under the direction of a board of trustees. Its funds amount to between 50,000 and 60,000 dollars. This academy was endowed by three brothers of the name of Philips, who made liberal provision for the education of indigent young men.

In 1808, a theological institution was created and annexed to this establishment from funds given by Samuel Abbot, Esq., to the amount of 20,000 dollars, and other sums and buildings, by Mrs Phœbe Philips and her son. Donations to the amount of 60,000 dollars have been bestowed by other persons.* In this department there are three professors. 1. Of Christian theology; 2. Of sacred literature; 3. Of pulpit eloquence. The institution is under the inspection of a board of visitors, consisting of two clergymen, one layman, and the founders. The students are graduates

* Moses Brown, and William Bartlett of Newbury Port, John Norris of Salem, and the late Mrs Norris, his relict.

from the different colleges. The present number is between 50 and 60.

The library contains 2500 volumes.

In 1815 a society was established in this seminary "for the education of candidates for the ministry." Any person may become a member by subscribing five dollars a-year, and by paying a hundred, he is a member for life. Clergymen pay but two dollars a-year. Donations are received.

Drummer Academy in Newbury, founded in 1756, has funds which yield 1000 dollars a-year. It is under the direction of fifteen trustees. *Leicester Academy*, in the town of the same name, was incorporated in 1784. *Bristol Academy*, at Taunton, in 1792. *Derby Academy*, at Hingham, in 1797. There are other academies at Plymouth, Sandwich, Dedham, Lynn, Westford, Groton, and Deerfield.

The societies for the improvement of science and literature are, 1. The American Academy of Arts and Sciences, established in 1780, with funds of which the annual interest amounts to 134 dollars. The library contains 2500 volumes.

2. The Massachusetts Medical Society.

3. The Massachusetts Society for Promoting Agriculture.

4. The Historical Society, established in 1791, which has published thirteen volumes of historical

collections. The library is very valuable, containing 3000 volumes, many of which are rare.

5. The Boston Athenæum, established in 1815 by a private subscription of 42,000 dollars.

6. The Boston Linnaean Society, established in 1813.

The religious and philanthropic societies are,

1. The Massachusetts Bible Society, which distributed, in the course of the year 1815, 2296 Bibles, and 532 Testaments. The receipts of that year, including 2333 dollars, the balance of the preceding, amounted to 5377, the expenditure to 3746, leaving a balance of 1631. *

2. The Society for Propagating the Gospel among the Indians.

3. The Massachusetts Charitable Society.

4. The Boston Episcopal Charitable Society.

5. The Marine Society of Boston, Salem, and Newbury Port.

6. The Massachusetts Congregational Society.

7. The Scotch and Irish Charitable Society.

8. A Society for the Aid of Emigrants.

9. The Massachusetts Charitable Fire Society.

10. The Boston Mechanic Association.

11. The Boston Dispensary for the Medical Relief of the Poor.

* North American Journal. No. 2. p. 291.

Religion.—The public ordinances of religion are generally well attended to ; though it is stated by Mr Beecher that there is a deficiency of 178 competent religious instructors.

The constitution has secured the free exercise of religious worship. The Congregationalists, the most numerous denomination, have 390 churches; the Baptists are next in point of numbers; according to the report of the general convention of this body, held in Philadelphia in May 1817, the number of churches was 91; of members, 7731. The Episcopalians have 14 churches and 8 ministers; the other sects are the Methodists, Universalists, and a few Quakers.

Agriculture.—The agricultural art has been carried to great perfection in this state, owing to the increased value of lands, and their equal partition among all the children of every family. The farms generally consist of from one to two hundred, and rarely exceed three hundred acres. A part is cultivated, another is reserved for meadow and pasturage, and from five to twenty acres for wood.

The principal agricultural productions are Indian corn, wheat, rye, oats, barley, buck wheat, potatoes, hemp, flax, hops, and pumpkins.

The principal grain is Indian corn, the average crop of which is about 28 bushels *per* acre, and the interval lands, well cultivated, yield from 60

to 80 bushels. It is planted in rows at the distance of three feet from each other, in the latter part of April and beginning of May; it is hoed three times, and arrives at maturity in the beginning of October. The stalks and envelope of the grain are dried in bundles, and, for cattle and sheep, are equal to the best hay. An acre yields about half a ton. This grain is superior to all others for fattening cattle, hogs, and poultry. The flour mixed with rye, in the proportion of a third, constitutes the common brown bread of perhaps four-fifths of the inhabitants.

Rye, also much cultivated, is sown in September, and the average produce *per* acre is about twelve bushels. *Wheat* is now little cultivated, being subject to blight, especially near the sea, and also to the ravages of an insect called the Hessian fly. The average crop is about fifteen bushels *per* acre; in good soils, about twenty; on old lands, it is generally sown in spring; on those newly cultivated, in autumn.

Oats are cultivated for horses; and in some places are sown with pease; ground with Indian corn, they constitute an excellent food for cattle. Of rye, the average produce is 15 bushels *per* acre; that of the best soil, from 25 to 35 bushels. In 1817, the premium of 40 dollars, proposed by the Massachusetts Agricultural Society, for the greatest crop of wheat, was awarded to a farmer

of Worcester county, who raised $36\frac{1}{5}$ bushels from an acre and four roods. A premium to the same amount, for the greatest quantity of potatoes, was given to a farmer of Dedham, who raised 450 bushels from an acre. *Pease*, when sown early, have been lately attacked by a bug, but when sown after the middle of June, they escape its ravages. *Beans* are raised in great quantity for domestic consumption, and sea provision. *Barley* and *buckwheat* are not much cultivated. Of *potatoes*, most farmers plant from half an acre to four acres, for family use, and also as food for domestic animals; the average produce of good lands is about 200 bushels *per* acre. *Pumpkins* are cultivated between the rows of Indian corn, and afford nourishment to cattle and swine till the 1st of January, after which it is difficult to preserve them. *Hops* are raised in the interior of the state for domestic and foreign consumption. *Flax* is cultivated for family use; and the value of the seed for exportation is considered as equal to the expence of cultivation. *Hemp* has been, of late years, much cultivated on low tracts called *bottoms*, where the produce is found even greater than in Europe, and the quality not inferior to that of Russia. In Deerfield, Franklin county, 23 cwt. 2 qrs. 16 lbs. were produced from three acres of rich interval land, and this quantity, at the ordinary price of $13\frac{1}{2}$ dollars, amounted to 319 dollars. The land was purchased

in 1801 for 200 dollars, so that this crop exceeded in value that of both the land and the labour. Clover, and other grasses employed for forage, thrive well, except in a few districts, where their growth is retarded by the upright *crotchfoot*,* and *eye daisy*;† the former, except in a dry state, is said to be injurious to cows. Timothy, or *herds grass*, or fox-tail grass, (*Phleum pratense*,) is generally cultivated, and is often mixed with *common spear grass*, (*Poa pratensis*,) and *annual spear grass*, (*Poa annua*.) The low lands yield from two to four tons *per acre*. The cattle are large, and resemble those of the north of France, especially in the four western counties. The ox is more used than the horse in agricultural labours. Cattle are housed seven months in the year. Of horses, there were originally three distinct races, which, by crossing the breed, have lost much of their original form and qualities. The Narragan breed, supposed to be of English origin, is nearly extinct. The others are the English courser, and the Norman horse, of which the qualities are much deteriorated. The horses of Massachusetts, being little employed in works of agriculture, have been neglected, and are inferior to those of Virginia and Pennsylvania. The *swine* are of a large size, and

* *Ranunculus acris*, Lin. † *Crysanthemum leucanthemum*, L.

excellent quality. The rearing of sheep has lately become an object of great interest. In July 1815, the number of sheep, belonging to gentlemen residing within a mile of the centre of the town of Pittsfield, was found to be 8478, of which, 435 were of full blood or merinos, 852 of common breed, and the remainder of a mixed kind. A difficulty attending the rearing of sheep is the facility with which they leap over the stone fences; and owing to this circumstance, a breed called the otter breed is now propagated, which, owing to their particular conformation, cannot leap a fence or wall, while their flesh and wool are not inferior to those of others. Gardening is now much attended to, and every farmer has an orchard, containing from one hundred to three hundred apple trees. The fruits most cultivated are apples, peaches, pears, quinces, plums, and cherries. The orchards are generally kept in grass.

Of the Value of Lands and Houses.

		<i>Dollars.</i>
In 1799, the lands were valued at	-	59,445,642
The houses at	-	24,546,826
		<hr/>
		83,992,468
In 1814, the value of both houses and lands was		<hr/>
Increase in 15 years,	-	65,261,046

According to the valuations made in 1814, the average value of lands *per* acre, including all the buildings thereon, was 13 dollars and 75 cents.

Industry.—Domestic manufactures have lately increased to an amazing extent. Ship-building is prosecuted with more ardour than in any other state. The eastern shore, which has fine harbours for shipping, and rich fisheries, likewise abounds in seamen, the most hardy, intelligent, and enterprising, perhaps, that ever the world produced.

Products of Mineral Substances.

	Dollars.
25,295,000 bricks, - - - value	139,067
Buttons, - - - - -	20,000
46 clocks and watches, - - -	16,185
Glass, - - - - -	36,000
12,976 pounds of brass guns, - -	7,136
32,159 do. of copper, - - -	22,828
20,845 do. of bells, - - -	8,555
99,283 do. of brass and pewter, -	41,700
251,503 do. of composition, - -	109,781
37 forges, 978 tons of bar iron, -	121,980
440 do. of anchors, - - -	92,712
2340 do. of hollow ware, - - -	132,200
Wrought iron, - - - - -	521,718
Edge tools, - - - - -	44,000
Yearly amount of jewellery, - -	161,625
Lead mines, - - - - -	200
8 factories, 19,095 muskets, - -	229,085
16 mills, 89,400 feet of marble, -	38,000
36 factories, 5,218 tons of wrought nails,	69,235
2,925 do. of cut do. - - -	644,990
Small do. - - - - -	1,360

			<i>Dollars.</i>
Ores, ochre, and nitre beds,	-	-	1,350
Soap stone,	-	-	1,300
Spectacles,	-	-	10,000
20 tons of manufactured steel,	-	-	4,000
23,600 pounds of saltpetre,	-	-	9,303
118,757 bushels of salt,	-	-	79,526
334,238 pounds of Glauber's salts,	-	-	13,369
2,777 dozen of steel thimbles,	-	-	10,000
11,000,000 tacks or small nails,	-	-	2,000
Tin plate work,	-	-	72,015
Earthenware,	-	-	18,700
Wire factories,	-	-	24,912

A manufacture of chemical and medicinal articles was established at Salem in 1812.

At Springfield, in the county of Hampden, the United States have an extensive establishment for the manufacture of arms; in 1810, the number of workmen employed was 220; the muskets manufactured 10,240.

Products of Vegetable Substances.

		<i>Dollars.</i>
Shipping, 23,410 tons,	- valued at	656,095
Cabinet wares,	- - -	318 622
Chairs, 1629 dozen,	- - -	96,060
Coopers' wares, 37,995 casks,	-	69,318
Rakes, 11,000 in number,	- -	1,870
Wooden ware, unnamed,	- -	31,000
Oil, 46,460 gallons,	- - -	49,982
Spirits from grain and fruit, 540,510 }		
— from molasses, 2,472,000 }		1,735,526
Beer, ale, and porter, 24,400 barrels of 31½		
gallons each,	- - -	86,450

	<i>Dollars!</i>
Spruce, essence, 1250 pounds, -	2,500
Oil of turpentine, &c. 6000 gallons, -	18,000
Paper, 99,629 reams, - -	306,951
Sugar refined, 422,000 pounds, -	82,400
Tobacco and snuff, 118,400, -	37,281
Cables and cordage, 3432 tons, -	1,302,644
Playing cards, to the value of -	97,500
Chocolate, 255,500 pounds, - -	73,100
Corn brooms, 70,000 in number, -	4,000
Musical instruments, to the value of -	17,880
Straw bonnets, - - -	551,988
Flour and meal ground, 509,530 bushels,	386,169
Saw mills, 11,215,000 feet sawed, -	87,335
Pot and pearl ashes, 123 tons, -	20,619
Carriages, (Maine,) - - -	9,000
———— (Massachusetts,) 733, -	122,674

The oak is chiefly employed for ship timber. The white pine for masts and boards. The white cedar for boards and shingles. Red cedar for posts fixed in the earth. The common chestnut for rails. The wood of the birch tree for cabinet work. The hornbeam and buttonwood trees for windlasses, blocks, and turnery work. The fir of the low lands yields a balsam of great medicinal value. A decoction of the young branches of the yellow pine, mixed with a sufficient quantity of molasses, constitutes spruce-beer, a pleasant beverage in the summer months. The bark of the hemlock fir and common birch serve to cover the cabin of the poor labourer and fisherman. The

bark of the oak and yellow birch is employed in tanning. Of hemp, there is a great consumption for the cordage of vessels. The blue berry, an agreeable fruit, is eaten at breakfast, and with tea in the evening. The bread in common use is made of a mixture of Indian corn and rye; of the former is made a dish, called *hasty-pudding*,* which is eaten with butter.

Products of Animal Substances.

				Dollars.
Mackerel,	5,400 barrels,	-	value	44,550
Horn combs,	49,905 dozen,	-	-	80,624
Whips,	7,050 do.	-		7,990
Catgut,	-	-	-	2,000
Tallow candles,	1,436,550 pounds,	-		217,060
Spermaceti,	465,000 do.	-		178,300
Gloves,	- 4,875 dozen,	-		14,625
Boots,	- 63,307 pair,	-		412,509
Men's shoes,	844,864 do.	-		973,033
Women's shoes,	1,310,500 do.	-		816,250
Saddlery, harness, and jockey caps,				188,826
Oil, spermaceti,	77,696 gallons,	-		68,832
— whale,	249,728 do.	-	-	171,688
— mills,	44,400 do.	-		46,982
Hard soap,	2,043,720 pounds,	-		289,697
Soft soap,	4,190 barrels,	-		18,400
Woollen stockings,	37,951 pair,	-	-	28,453
Morocco skins,	261,800 do.	-		139,660

* This dish is the subject of a poem, entitled *Hasty-Pudding*, by the late Mr Barlow.

Tanneries.

				<i>Dollars.</i>
Hides,	174,596	-	-	1,022,661
Calves skins,	65,888	.	-	129,078
Do.	2,800	-	-	9,100
Sheep skins,	62,536	-	-	52,140
Whips,	7,050	-	-	7,900

In the island of Nantucket there are from fifteen to twenty manufactories for lamp oil and spermaceti candles. A great number of vessels are there fitted out yearly for the whale fishery in remote seas. *

Salted cod fish is a favourite dish in Massachusetts throughout the year. It is kept several hours in fresh water before it is boiled, and is eaten with fresh melted butter. The skins of squirrels, particularly those of the striped species, are dressed and sold as furs.

The whole amount of the manufactures in Massachusetts, in 1810, was 18,536,933 dollars, including articles considered as of a doubtful nature

* At the commencement of the revolutionary war, Massachusetts employed 400 seamen, and 24,000 tons of shipping, in the whale fishery, of which the produce was L. 350,000 a-year of lawful money; and the cod fishery 4000 men, and 28,000 tons of shipping, producing L. 250,000 a-year. See Jefferson's (then secretary of state of the United States) Report on the Fisheries, 1st February 1791.

in relation to manufactures, to the amount of 687,043 dollars. These are flour and meal, saw-mills, sugar, bricks, saltpetre, pot and pearl ashes.

COMMERCE.—*Domestic Articles of Export.*—Flour, corn, rice, cotton, tobacco, breadstuff, beef, pork, bacon, lard, butter, cheese, pickled and dried fish, oil, spermaceti, whalebone, lumber, naval stores, beans, peas, potatoes, apples, candles, soap, New Orleans sugar, loaf-sugar, hops, wax, furniture, beer, boots, shoes, New England rum, gin, linseed oil, spirits of turpentine, cables and cordage, nails, iron, clover seed, cotton yarn, onions, vinegar, and manufactures of various kinds. *Foreign Articles Imported*, of which a great quantity are sent to a foreign market.—Dye woods; English, India, German, Russian, French, Scotch, and Irish piece goods and hardware, wines, spirits, teas, sugars, coffee, cocoa, fruits, spices, molasses, indigo, cotton, cochineal, manufactures of lead, paints, cordage, hemp, porter, segars, cheese, candles, nails, iron, iron hoops, &c. &c. In 1809, the exports of rice, cotton, flour, tobacco, staves, and naval stores, principally the produce of the southern states, amounted to 2,294,109 dollars. In 1810, the whole amount of exports was 13,013,048 dollars, of which 7,251,277 were of foreign, and 5,761,771 of domestic produce. The net amount of the duties on imports, in 1810, amounted to 2,542,338 dollars.

The tonnage, in 1807, was 321,032 tons, viz.

Registered,	{ permanent,	199,550 tons.
	{ temporary,	19,248
Enrolled and licensed,	{ permanent,	92,170
	{ temporary,	3,305
Licensed under 20 tons,	{ coasting trade,	1,476
	{ cod fishery,	5,280
		<hr/> 321,032

Proportion of the enrolled and licensed tonnage employed in		
the coasting trade,	-	51,712
The whale fishery,	-	127
The cod fishery,	-	43,635

In 1807, 693 vessels cleared out at the office of the district of Boston and Charlestown, for different ports, as follows :

37 for France.

73 for Spain, Italy, and the Mediterranean.

51 for Holland, Germany, and the Hanse towns.

18 for England, Scotland, and Ireland.

229 for ports of Europe, Asia, and Africa, and the north-west coast.

The sale of English prizes near the close of the year 1813, brought into the port of Salem, amounted to 675,695 dollars. The value of privateers from this port, captured by the English, was estimated at 164,100 dollars.

Banks.—In Massachusetts Proper there are sixteen banks, of which the capital, in 1812, amounted to 10,250,000 dollars. The banks of this commonwealth are incorporated on the following con-

ditions, required by the statutes : 1. Any loss or deficiency arising from the official mismanagement of the directors, is made up by the stockholders in their individual capacity, but not for a greater sum than the amount of stock actually held by each. 2. When the act of incorporation expires, the stockholders are bound to pay, in their individual capacities, all bills issued by them which then remain unpaid, in proportion to the stock respectively held by each. 3. One tenth of the whole funds of each bank is appropriated to loans made to citizens, in relation to the agricultural and manufacturing interests. 4. Each corporation is liable for the payment of the original amount of any bank note altered to a greater amount in the course of its circulation, and this payment is due to the *bona fide* holder. 5. A tax of one half of one *per cent.* on the amount of the original stock actually paid in, is paid to the treasurer of the commonwealth for public use, within ten days after each semi-annual dividend. 6. The commonwealth, when authorized by a law of legislature, may subscribe a sum not exceeding one half of the capital stock of each corporation. 7. If required by the legislature, each corporation is obliged to lend to the commonwealth any sum of money not exceeding ten *per cent.* of the amount of the capital stock actually paid in at any one time, reimbursable at five annual instalments, or at a shorter period, if convenient,

with the annual payments of interest, not exceeding five *per cent. per annum.*

A Table of the Banks in Massachusetts Proper, 18 in number.

Name of Banks.	Counties.	Towns.	Date of Incorporation.	Time of Expiration.	Capital.
					Dollars.
State	Suffolk	Boston	1811	1831	3,000,000
Massachusetts	—	—	1812	1831	1,600,000
Union	—	—	—	—	1,200,000
Boston	—	—	—	—	1,800,000
Merchants	Essex	Salem	1811	—	300,000
Essex	—	—	1799	1819	400,000
Salem	—	—	1812	1831	200,000
Gloucester	—	Gloucester	—	—	120,000
Marblehead	—	Marblehead	—	—	120,000
Beverly	—	Beverly	—	—	160,000
Mechanics	—	Newbury Port	—	—	200,000
Newbury Port	—	—	—	—	350,000
Plymouth	Plymouth	Plymouth	—	—	100,000
Taunton	Bristol	Taunton	—	—	100,000
Bedford	—	New Bedford	—	—	200,000
Phoenix	Nantucket	Nantucket	—	—	100,000
Nantucket Pacific	—	—	—	—	100,000
Worcester	Worcester	Worcester	—	—	200,000

Bridges.—The number of toll bridges is very considerable, and some are remarkable for their construction and extent. *Malden bridge*, across Mystic river, connecting Charlestown with Malden, is 2420 feet in length, and 32 in breadth. The *Charles river bridge*, which connects Boston with Charlestown, built on 75 piers, is 1503 feet in length, and 43 in width. On each side there is a railing for the protection of foot passengers; and, by means of a drawbridge, vessels pass through the channel, without being retarded in their course. *West Boston bridge* is 3500 feet in length. Two other bridges, *Craigie's* and *South Boston*, are no

less remarkable. Across Connecticut river there are twenty-two bridges, six of which are in Massachusetts ; and several, of an elegant and novel construction, have been erected across the Merrimack river.

Canals.—The *Middlesex canal*, completed in 1804, extends from the harbour of Boston to the river Merrimack, in the town of Chelmsford, a distance of 25 miles, and opens a communication with the state of New Hampshire. Concord river, which is the reservoir of this canal, is 21 feet higher than the Merrimack, and 107 feet above the full tide in Boston harbour. The locks, three in number, are of freestone. That nearest the river is 90 feet in length, and 12 in breadth. It is navigated by long boats of 24 tons, which are drawn by two horses, at the rate of three miles an hour. The expence of this work amounted to 550,000 dollars. The tolls have not produced more than 17,000 dollars a-year. Two other canals extend along the eastern bank of Connecticut river. The upper, called the *Montague Canal*, in Franklin county, opened in 1800, saves a land-carriage of six miles. The canal extends three miles through a light sandy plain, and the whole descent is 65 feet. There are eight locks, each 75 feet long, 20 in width, and 12 in depth, supported by walls of stone. The lower, or *South Hadley Canal*, in the county of Hampshire, is two

miles in length, twenty feet in width, and draws three feet water. The whole descent is forty feet, and the canal saves a land-carriage of six miles. The five lower locks are each twenty feet in breadth, and seventy-five in length, except the upper one, which is a hundred and fifty feet long. The *Essex Canal* runs along the Patucket falls of the Merrimack, of which the descent is thirty-four feet. The canal with three locks is four miles in length, and is sufficiently deep for boats drawing three feet and a half water.

Several other canals, along different parts of the Merrimack, have been projected. The stock of the two companies concerned in these canals is divided into 1008 shares, one half of which belongs to Hollanders. 200,000 dollars were expended in 1812.

On the Middlesex canal there is a steam-boat for the conveyance of passengers, which moves at the rate of between seven and eight miles an hour.

Public Carriages.—The mail stage-coach, common to all the states, is a light carriage, drawn by two or four horses, and fitted for the accommodation of nine passengers, whose trunks or luggage are placed behind, by means of a leathern strap, or fixed under the seats. The driver is not separated from the passengers, to which no objection is made, as he is often the son of a farmer, proprietor of the stage. In summer this carriage is agreeable, but

in winter uncomfortable ; as there is no other protection against the weather than a curtain of leather, often fastened in a negligent manner to the posts which support the roof. But some of the stages in this state are nearly as good as those in England.

Light-houses.—The light-house on Baker's island is to be rebuilt. Four thousand dollars were voted for this purpose, by the act of Congress of the 27th of April 1810, which also granted three hundred and forty-one dollars for placing buoys and beacons at or near the entrance of the harbour of Beverly ; and for repairing piers in the harbour of Newbury Port, a sum not exceeding seven hundred dollars.

Nantucket Island light-house was erected by the state in 1784. The keeper has a salary from the United States of 266 dollars a-year. *Gay-head* light-house, on Martha's Vineyard, the keeper of which has a salary of 300 dollars a-year. *Boston* light-house, the keeper of which has a salary of 333 dollars. *Thutcher's Island* light-house is a mile east of the south-east point of Cape Ann. The keeper's salary is 350 dollars a-year. *Baker's Island* light-house, off Salem harbour, erected in 1797, with two lights forty feet from each other ; the southern ninety-five feet from the water, the northern seventy-eight feet. The keeper's salary is 256 dollars. *Plum Island* light-

house, on the northern extremity. Keeper's salary 266 dollars. *Cape Cod* light-house. Keeper's salary 225 dollars. *Cape Page* light-house. Keeper's salary the same. *Portland* light-house, erected at the entrance of the harbour, in 1790, a stone edifice, seventy-two feet high, exclusive of the lantern. Keeper's salary 300 dollars. *Plymouth* light-house. Keeper's salary 150 dollars. *Sequin* light-house. *Wighman Point* light-house. *White Head* light-house. *Franklin Island* light-house. The keeper's salary of each of these is 200 dollars.

<i>Wood Island</i> light-house. Keeper's salary	225 dols.
<i>Passamaquoddy</i> light-house,	330
<i>Chatham</i> light-house,	250
<i>Boon Island</i> light-house,	400
<i>Scituate</i> light-house,	260 *

Inventions.—Massachusetts has the honour of many useful inventions and improvements in the mechanical and manufacturing arts. Among the most important is the machine for cutting nails, invented by Mr Perkins of Newbury Port, by means of which 200,000 may be cut in a day. They are preferred to those of English manufacture, and are sold 20 per cent. cheaper. †

* See Register of the United States for 1816.

† Morse—art. Massachusetts.

Mr Dow of Boston has invented a machine for the manufacture of screws, which, by means of a crank, produces a perfect screw at one operation.

Roads in Massachusetts.

	Miles.
From Boston to Gloucester	30
——— to Portsmouth	63 upper road.
——— to Haverhill	41
——— to Amherst	61
——— to Groton	33 on the turnpike road.
——— to Winchendon	68
——— to Brattleborough	116
——— to Pomfret	57
——— to Newport	65 turnpike road.
——— to Provincetown	122
——— to Chatam	94
——— to Nantucket	123
——— to Holmeshole	91
From Sandwich to Holmeshole	24
From Middleborough to Newport	41
From Worcester to Providence	42
——— to Lancaster	20
From Leominster to Greenfield	47
From Ruthland to Northampton	35
From Springfield to Stockbridge	31
From Williamston to Salisbury	56

*Books relating to the History and Productions of
Massachusetts.*

1. Douglas's Summary. Article Massachusetts.
2. The History of the British Dominions in North America, in 4to, contains a very particular Account of Mas-

achusetts Bay, from the 75th to the 222d page of the first volume. 1773.

3. Morse's Geography. Article Massachusetts.
4. Hutchinson's History of Massachusetts.
5. Minot's History of the Insurrection in Massachusetts.
6. Bigelow's (Dr J.) *Florula Bostoniensis*, or Collection of the Plants of Boston and its environs. Boston, 1814, Vol. I. in 8vo, pp. 268.
7. Folger's and Macy's Account of Nantucket, referred to by Dr. Morse.
8. Brown, (Samuel) Treatise on the Nature, Origin, and Progress of the Yellow Fever, &c. but more particularly as it has prevailed at Boston, 8vo, pp. 112. 1800.
9. Bartlett, (Josiah) Dissertation on the Progress of Medical Science in the Commonwealth of Massachusetts. Boston, 1810. 8vo, pp. 48.

OF THE DISTRICT OF MAINE, *

Which forms a Part of the State of Massachusetts.

Situation and Extent.—This district, situated between the forty-third and forty-seventh degree of north latitude, is bounded on the north by Lower Canada, the highlands forming the line of separa-

* So called by way of compliment to the Queen of Charles I. who had a private estate of the same name in France, her native country.

tion ; on the east by New Brunswick, the boundary being the St Croix River, and a line running north from its source to the highlands ; on the south-east and south by the Atlantic Ocean ; on the west by the Piscataqua River, for a distance of forty miles, and thence by a line running due north, separating this state from New Hampshire. The *length* on the eastern frontier is about 210 miles ; on the northern 280. The greatest length from north to south is 225 miles. The greatest breadth from east to west 195. It extends along the sea-coast 240 miles, for 180 of which there is a good road leading from Piscataqua to the St Croix River. *Area* 32,628 square miles, or 20,882,354 acres.

Mountains.—A ridge extending along the northern limits separates the waters that flow into the river St Lawrence from those that fall into the Atlantic to the north-west corner of Nova Scotia. The *Spencer* Mountains, which lie eight or ten miles distance from *Moose Lake*, have a considerable elevation, and in latitude $43^{\circ} 16'$, there is an isolated mountain, named *Agamenticus*, which raises its head above all the others, and serves as a landmark for mariners. It is calculated that about one-seventh part of the surface is mountainous, included within a line running from the New Hampshire boundary near Saco River, in an irregular north-easterly direction to the eastern branch of

the Penobscot, near the mouth of Wanatagwick, and thence in a westerly direction to the boundary near the source of the Deloup River ; the most elevated parts are near the north-western angle, from which it sinks irregularly in every other direction.

Soil.—Near the sea-coast the soil is light and poor, but in the interior, and particularly between the Kennebeck and Penobscot Rivers, it is as fertile as in the western parts of New England, producing good crops of grain and grass. The whole surface is divided by Mr Greenleaf into three sections, the soil and products of which are distinctly marked ; the first extends along the whole sea-coast, and to the distance of from ten to twenty miles therefrom, with an intermixture of sandy, gravelly, clayey, and loamy soil, which in many places is tolerably fertile, producing Indian corn, rye, barley, grass, &c. The second, lying to the north of the former, and extending fifty miles from the sea in the western, and ninety in the eastern parts, has a similar composition of soil, but more uniform, and more fertile ; it produces good crops of grass, Indian corn, wheat, barley, rye, flax, &c. In the third or last section, which is yet but little known, there is a great diversity of soil, fitted, as is believed, for the culture of wheat, barley, flax, and hemp, and particularly for the first, which it is supposed will succeed better here than in other

parts. Concerning the interior parts yet unpeopled, Mr Greenleaf has furnished the following information. The soil, in the western side, extending east to the Kennebeck, and north to the heads of the Chaudiere River, is mountainous and rugged, but towards the Penobscot, and northward to the source of its eastern branch, the soil is well adapted for agricultural purposes. On the eastern side of this river, and south of Passamaquoddy and Schoodich Lakes, it is less fertile ; but it is watered by rivers which afford an easy communication with the sea. Between the Passadumkeay and Mita-wumkeay, there is a large proportion of good land ; but to the north of those waters, and to the extent of fifty miles on the latter, it is low and swampy. On the east and west are large tracts of good soil. The country watered by the St John is generally fertile, and particularly along its border. There is not more waste land in this district than in any part of New England of the same extent. The lands of the interior which we have just described, are estimated at 16,031,000 acres, of which 4,352,000 belong to different persons, and 11,779,000 to the state. The whole of this extent does not contain a population of more than *fifteen hundred families*.

BAYS.—*Casco Bay*, situated between Cape Elizabeth and Small Point, (which are thirty miles asunder,) extends fourteen miles within land, and

forms an excellent harbour for vessels of any size. 2. *Penobscot Bay*, the estuary of the river of the same name, is about sixteen miles in breadth, and from thirty-five to forty in length. 3. *Frenchman's Bay*,* which is to the east of the former, has a range of islands near the centre, which form a natural harbour, with eighteen or twenty fathoms water, where 200 sail may ride at anchor in safety.

RIVERS.—1. The river *St John*, the largest in the district, issues from the highlands, and runs about half its course in Maine. 2. *The Kennebeck* River rises in the north-western parts of the state, and empties itself into the Atlantic to the east of Casa Bay. It is navigable for large vessels forty-six miles from the sea, where the falls commence, known by the name of Teconic and Karatunk, the latter of which are the largest. The outlet of the Kennebeck forms a considerable bay. At the distance of twenty miles from the sea it receives the Androscoggin River, a large western branch, which rises in New Hampshire. 3. The *Saco* River issues from the White Mountains in New Hampshire, and flows into *Saco Bay*, from

* So called from the circumstance of a French nobleman, named *Sutterelle*, having established himself in one of its islands, from which he was driven by the English Colonel *Church*, in 1704.

which it is navigable to the distance of six miles. 4. The *Piscataqua* River, which forms the boundary of Maine on the west, runs through part of New Hampshire, and afterwards crosses Maine to its outlet in the ocean, thirty miles from the head of Capé Ann. 5. *York River* is navigable for vessels of 250 tons to the distance of six or seven miles from the sea.

LAKES.—*Moose Head Lake*, situated to the north near the highlands, is forty miles in length, and from ten to fifteen in width. *Lake Sebacoek*, which lies at the distance of eighteen miles northwest of Portland, has a communication by Long Pond with Sungo River, forming an extent of waters of thirty miles. The *Umbagog Lake* is situated partly in Maine and partly in New Hampshire.

ISLANDS.—In Casco Bay there are more than 300 islands, all of which are cultivated, and several inhabited. Penobscot Bay also contains numerous islands, one of which, called Long Island, is fifteen miles in length, and from two to three in breadth; it forms a township called Hillesborough. The other principal islands are known by the names of *Fox*, *Deer*, and *Haut Islands*. *Parker's Island*, on the east side of the mouth of the river Kennebeck, contains 18,000 acres of land, and is inhabited by more than sixty families. *Arrowsike Island*, separated from the former by a narrow strait, is nearly of the same size. *Stage Island*, lying to

the south of the two former, and containing about eight acres, is remarkable as the place first occupied by the colonists of New England. The island of *Jeremysquam*, situated to the north-east of the former, is of considerable extent, and contains a number of inhabitants. The island of *Mount Desert*, in Frenchman's Bay, is large and fertile. The whole coast is lined with islands which, to navigators approaching it, have the appearance of the main land. The lakes we have noticed also contain numerous islands.

Temperature.—The winter is very severe from the 1st of November to the 1st of April. During this period the ground is covered with snow, the rivers and lakes with ice. Vegetation is several days later in the northern than in the southern parts. In regard to climate, Mr Greenleaf observes, that the whole district may be divided into four sections : In the first, extending about twenty miles from the sea, there are sudden transitions from heat to cold, and from drought to fogs and rain ; in the winter, from cold and snow, to thaws and storms of rain. In the south-west part, where the surface is more cleared of woods and cultivated, the summers are warmer, and the winters are less regular than in the north-eastern parts. The second division, extending about twenty miles farther into the country, has a more regular temperature throughout the year. In the third section,

which includes all the settlements yet formed, the winter is longer and colder ; the summer more uniform, cooler, less subject to droughts, or to long and heavy rains. Towards the western extremity, the frosts continue longer, and come on earlier than near the opposite side ; and the north-west winds are more frequent and violent. Of the fourth, or last section, very little is known, except that, at the French settlement in the river St John, the summer is favourable to the cultivation of most of the agricultural plants.

The opinion concerning the climate and soil of this country was for a long time so unfavourable, that, until the commencement of the American revolution, most of the bread consumed by its inhabitants was imported from the middle states. The climate, notwithstanding the great degree of cold which prevails in winter, is found to be very healthy, and the soil is adapted to the purposes of agriculture. Vegetation is later than in the more southern parts of New England ; but it is more rapid. Indian corn, which constitutes the principal food of the inhabitants, thrives well, except near the northern extremity, where the heat is not sufficiently great to bring it to maturity, if it were not also liable to be injured or destroyed by the frosts of spring and autumn. It appears that the climate of this region is not materially different from that of Massachusetts, New Hampshire, or Vermont,

and, like these, will become less rude in proportion as the surface is cleared of the woods and marshes. Of this there is a remarkable proof, towards the centre, or middle parts, in a strait containing about 400,000 acres, where the trees, levelled by a hurricane in 1798, were afterwards burnt by the Indians and other hunters, and the soil exposed to the influence of the sun, which has created so great a change of temperature, that the vegetation is from two to three weeks earlier in spring; and the weather is warmer, particularly during the night, than in any part of the surrounding country, to the distance of forty or fifty miles.*

At Hallowell the thermometer has been known to fall thirty-six degrees below zero.

Pears are produced in all parts of the district, and apples in the interior.

Minerals.—*Iron ore* (bog and mountain) in different parts; *loadstone*, or *native magnet*, at Jopsham; *antimony* in Saco river; *copperas* (sulphate of iron) near East Andover; *talc* or *mica* at Jopsham, near Bowdoin College; *beryl*, in a coarse-grained granite, extending thirty miles from a point, five miles east of Bath in Lincoln county, to five miles west of North Yarmouth in Cumberland county; *garnet*, of a brownish red

* Greenleaf's Statistical View.

colour, at Jones's Eddy, near Bath ; of an orange red, at Brunswick ; and at Jopsham, both the precious and common garnet, varying from a reddish brown to a lively red colour ; *slate* of a good quality at Waterville and Winslow, on the banks of the Kennebeck, about twenty miles above Hallowell ; *turkey* or *whitstone* very abundant near the forks of the Kennebec, eighty or ninety miles from Hallowell ; *fullers* earth at Newfield in the county of York, said to be found at the depth of twenty feet below the surface ; *molybdena* (sulphuret) at Brunswick, in the banks of the Androscoggin river.

Trees.—It is to be regretted that no catalogue of the forest trees has yet appeared. The most numerous are the white pine, spruce, maple, beech, birch, white and grey oak. The first is abundant, and of great value. The low lands produce a species of fir, which yields a valuable balsam. There is a track lying to the south of the Spencer Mountains, and extending in a westerly direction to the distance of fifty or sixty miles from Penobscot river, where the trees, in 1798, were levelled with the ground by a violent wind, which followed the direction of the mountains. In 1804 and 1811, this whole surface was overrun by fire, kindled by accident, or by lightning, and vegetation entirely destroyed, except in low places, along the borders of rivers. Among the dark trunks and roots of

trees are still seen the bones of numerous animals that perished in this conflagration.

Wild Fruits.—Among the wild fruits, noticed by Dr Morse, are apples, plums, cherries, pears, grapes, raspberries, gooseberries, currants, blackberries, and cranberries. The country, when first discovered, was covered with majestic trees, of which the most abundant growth was white pine, so valuable for ship-building, that, by the charter of 1692, all pine trees of twenty-four inches diameter were reserved for the use of the king. The penalty for cutting such trees was L. 100 Sterling; and for the purpose of protecting them, agents were appointed to inspect the forests, who, giving licence to carry off all other kinds, the royal pines were left alone, and, unable to withstand the winter storm, they soon perished.

Animals.—The *deer* were formerly very numerous, but in the western parts they have nearly disappeared. The *Moose* deer, which was formerly seen in the northern parts, is now very rare; the largest were seven or eight feet in height. An animal peculiar to the district, called by the Indian natives the *Bueca-rebou*, partaking of the qualities of the moose and deer, and remarkable for its swiftness, has entirely disappeared, *

* This, no doubt, was the same animal, known by the name of *caribou*, described by Jeremie and other travellers, who

The *wolf* and *bear* are still numerous, but are not dangerous, except when pressed by hunger, or closely pursued. The *beaver*, *fox*, and *squirrel*, are numerous. The *rattlesnake* is the only poisonous serpent in the district.

The *mosquito* is the only insect which annoys during the summer heats.

Fishes.—*Cod*-fish abound in the bays, and the rivers furnish great plenty of *salmon* and other kinds of fish common to the inland waters of the northern states. Salmon was formerly in such great plenty in the Piscataqua, that they were taken with spears on the rocks, and above the falls of Quampeagan, and the river was here called *Salmon Fall River* ; but this fish has long since disappeared, owing, as has been supposed, to the erection of saw mills ; but it is still found in great abundance above the falls of *Saco* and *Salmon Fall*, fifteen miles from the sea, where the mill-dams do not extend across the whole breadth of the river. *Alewives*, *smelts*, and *tomcod*, visit this river annually. Large trout, of an excellent quality, are found in Moosehead Lake and other waters of the interior country. *Shell-fish* abound on the coast—the lobster, the scallop, and the clam.

saw flocks near Witson, between Danish River and Port Nelson, where they sought relief from the swarms of insects which tormented them in the woods.

Population.—It is stated by Douglas, that the militia, or fencible men, at the breaking out of the French war, amounted to 2485; in 1750, the population was 10,000 by estimate; 1790, 96,540; 1800, 151,719; 1810, 228,705.

White male inhabitants,	-	115,509
Female,	- - -	112,227
Persons of colour, not Indians,	-	969
Males under 10 years of age,	-	41,273
Females,	- - -	39,131
Males of 10, and under 16,	-	18,463
Females,	- - -	17,827
Males of 16 and under 26, including heads of families,	- - -	20,403
Females,	- - -	21,290
Males of 26, and under 45, ditto,	-	22,079
Females,	- - -	21,464
Males of 45 and upwards, ditto,	-	13,291
Females,	- - -	12,515

The increase, from the year 1790 to 1800, is 55,179, or nearly 58 *per cent.*; that of the next ten years is 76,986, or somewhat more than 50 *per cent.* The migration into the district, during this period, was from 2000 to 2600 annually, and chiefly from Massachusetts and New Hampshire. From the year 1772 until 1800, the mean ratio of increase was about 6 *per cent.* Since that period, there has been a considerable migration to the western country.

Longevity.—Edward Scribner of Otisfield was in his 100th year on the 1st December 1815, and his wife in her 96th year the 9th of the following month.

Inhabitants.—The remains of the Penobscot tribe of Indians, to the number of 300, live on the Penobscot river, where, finding abundance of fish, and living under the influence of Catholic Romish priests, who encourage them to early marriage, their population has lately increased. The first inhabitants came from different parts of New England, and from several countries of Europe, particularly from England; and the emigration still continuing, it is difficult to draw any conclusion from the increase of population concerning the healthiness of the climate. Mr Sullivan observes, that more children are born from the same number of parents than in the state of Massachusetts, west of New Hampshire, and that the mortality of infants is not so great as in more southern parts; that pulmonic diseases are more rare; that yellow and bilious fevers are almost unknown; and that fever and ague, which were frequent within sixty years, seldom prevailed for some years previous to 1796, the period to which he refers. The measles appeared in Berwick, in the county of York, during a part of the years 1802 and

* Walsh's Amer. Reg.

1803.* In the years 1799 and 1800, an epidemic fever prevailed in the county of Cumberland, from July to March.†

Manners and Character.—The first settlers were woodmen, hunters, or fishermen, who, becoming farmers, their manners changed with the condition of life, and the intermixture of emigrants of every description.

History.—According to English writers, this country was discovered by one of the Cabots in 1497, when in search of a northern passage to the East Indies. The English, attracted by the advantages of the fur trade and cod fisheries, made a settlement on Piscataqua river, in 1614, discovered by Captain Smith, and another on Saco river, in the year 1629, where courts were established, and civil government introduced. But the growth of those settlements was checked by the hostility of the savages, and the contest between England and France for territories and possessions. The former, from the year 1679, continued their plans of annoyance to 1760, and so slow was the progress of population, that, at the time of the reduction of Quebec, it did not exceed 13,000.

The tribes of the nation *Abenakis* or *tarateens*,

* See Medical Repository for 1804. p. 344.

† See Dr Barker's Letter on this subject, in the third volume of the Medical Repository of New York, p. 364.

occupied almost the whole of this district. The *Norridgewocks* lived on the upper part of the Kennebeck, the *Penobscots* on the river of the same name. After the reduction of Canada, they sought and obtained the protection of England.

In 1639, the whole province of Maine was granted by the council of Plymouth, or of New England, to Sir Ferdinand Gorges, a staunch royalist, whose firm adherence to the cause of Charles I. (by whom this charter was confirmed,) and devotion to the national church, roused the jealousy of the Dissenters, then, as at present, by far the most numerous class of settlers. This induced the colony of Massachusetts, in 1677, to purchase the soil of the territory, which was incorporated with theirs in 1692, by the charter of William and Mary. This charter embraced, as one colony, all the country from Rhode Island and Connecticut to the St Croix river. At this period the province was divided into two parts; the first lying between the river Piscataqua and Kennebeck, was called the province of Maine; the second, situate between the rivers St Croix and Kennebeck, was known by the French name of Acadie, both of which were preserved in the charter.

From the year 1635 to 1654, the country situated between the Penobscot and St Croix rivers was in possession of the French, who had erected a fort, and made considerable improve-

ments, when they were destroyed or driven away, first by Sir Samuel Argall in 1613, and afterwards by Colonel Church, in 1704. Claiming the country along the sea, as far as the Kennebeck river, in 1633, they prevented the new Plymouth colony from establishing a trading-house on the river *Machias*. This claim of territory was settled by the peace of Utrecht, in 1712.

From the year 1785 to 1802, different attempts were made to separate this district from that of Massachusetts *Proper*, as it is called, and to erect it into an independent state. The plan, which then proved unsuccessful, has been lately renewed with more chance of success; but it still forms an integral part of the commonwealth of Massachusetts, and is subject to the same constitution, laws, and government. In 1816, the vote of the inhabitants was taken on the question of separating from the Massachusetts, and the number in favour of an independent state was 4074; against it, 2016.

Civil or Administrative Division of the District of Maine, with the Population of each County and Chief Town, in 1810, the year of the last enumeration.

Counties.	Townships.	Population.	Chief Towns.
Cumberland,	24	42,831	Portland, 7,169
Hancock,	76	30,031	Castine, 1,036

Counties.	Townships.	Population.	Chief Towns.
Kennebeck,	33	32,564	Hallowell, 2,068
Lincoln,	36	42,992	Wiscasset, 2,083
Oxford,	37	17,630	Paris,
Somerset,	37	12,910	Norridgewock, 880
Washington,	24	7,870	Machias, 1,570
York,	21	41,877	York, 3,046
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8	288	228,705	

Religion.—The religious denominations are Congregationalists, Baptists, Quakers, Methodists, Episcopalians, Catholics, and Universalists. The first are the most numerous, having 91 churches. In May 1817, the number of Baptist churches, according to the report of the general convention, held in Philadelphia, was 112; that of numbers, 6287. Mr Bescher states, that one-half of the population have not the advantage of religious instruction.

Education.—There are common schools in most of the towns, and seven academies are established, and endowed with grants of public lands at Portland, Hallowell, Berwick, Fryeburg, Bath, Hampdon, and Machias.

Bowdoin College.—So named in honour of its benefactor, the late James Bowdoin, who bequeathed to it his library and property to the amount of 10,000 dollars, is established in Brunswick county, and was incorporated in 1795. The

legislature has endowed it with five townships of lands, and placed it under the direction of two boards, one of thirteen trustees, and one of forty-five overseers or inspectors. There is a president, who is also a professor, and a professor of languages. The college building is fifty feet long, forty wide, and three stories high.

Militia.—Of the thirteen divisions, of which the militia of Massachusetts is composed, six belong to the district of Maine, consisting of 23,108, including officers; the whole militia of the commonwealth being 70,573.

Agriculture.—The crops generally cultivated consist of wheat, rye, barley, oats, peas, hemp, and flax. Hops grow spontaneously. Mr Greenleaf states, that, in the settled parts of the district, of each 1000 acres, 838 consist of improveable lands, 102 of waste lands, 47 of water, and 13 are occupied by roads. According to the return of the assessors, the average product of *bread stuff* per acre, from the lands in tillage, is about seventeen bushels; but this is a low valuation, and the lands under a more improved system of husbandry would give a greater produce. That of wheat on the seaboard land is from seven to twelve bushels per acre; in the interior from fifteen to forty. In the most northerly settlements, near the north-eastern parts, thirty-three bushels, and in Penobscot from

forty to sixty bushels, of Indian corn ; in the eastern parts, from twenty to thirty bushels ; in the western, from thirty to forty. The country is well adapted for grazing, and produces large stocks of neat cattle. The coast furnishes a marine vegetable called *rock-weed*, which is found to be an excellent manure, in the proportion of ten loads to an acre. It has been estimated that there are 4000 acres on the coast, each of which yields annually twenty loads of this article.

Public Lands.—A large extent of surface, called Eastern Lands, still belonged to the state in 1795. The legislature sold a portion to the amount of 269,000 dollars, and contracted for the sale of 2,839,450 acres, of which 103,680 have been retained for the ship masts, leaving at the disposal of the legislature about 8,700,000 acres, of which a considerable portion has been since allotted for the encouragement of literature, and other useful purposes. The lands in incorporated towns and plantations amount to 4,850,556 acres, valued at 27 dollars an acre, with an average population of twenty persons to a square mile. The wild lands sell from one half to two dollars, and upwards, according to their situation and quality.

Manufactures.—The manufactures, which consist chiefly of coarse cloth and farming utensils, amounted, in 1810, according to the marshal's

return, to 2,135,781 dollars. The white pine and spruce trees afford a great quantity of masts, boards, and shingles. Yellow birch is much used for cabinet work, on account of the fine polish it receives; the layers of the outer bark serve as a substitute for paper.

Price of Labour.—Farm labourers have from 9 to 12 dollars a month, with food and clothing, and half a pint of rum per day, and 20 dollars without provisions. A day labourer has a dollar, with provisions; carpenters a dollar and a half; mechanics a dollar and a quarter per day.

Commerce.—The exports consist chiefly of dried fish, white pine boards, ship timber and lumber, potash, beef, pork, and grain. A portion of the trade is carried on through Massachusetts and other states. The *imports* consist of colonial produce from the West Indies, manufactured articles, and salt, hemp, iron, from Europe. The inhabitants of *Portland* carry on a considerable foreign trade. This place, situated on a promontory in Casco Bay, has a large and safe harbour, which is very seldom frozen over. In 1810 forty-two vessels were built at this place, which measured 10,726 tons. At the entrance of this harbour, on an elevated point, there is a stone light-house seventy-two feet high.

Banks.

Names of Banks.	Date of In- corporation.	Expiration.	Capital.
Saco,	1812	1831	120,000 dollars.
Portland,	1799	1819	300,000
Cumberland,	1812	1831	300,000
Wiscasset,	1812	1831	250,000
Bath,	1812	1831	100,000
Hall and Augusta,	1812	1831	150,000
Kennebeck,	1812	1831	100,000

Revenue.—The average amount of state tax paid by each freeman is about 27 cents.

The amount, for three years, ending in 1807, collected in the district, was 1,165,368 dollars.
For 1808, 1809, and 1810, 618,772

Mr Greenleaf observes, that this province, were the attention of her inhabitants sufficiently directed to agriculture, must export large quantities of beef, pork, flax, corn, &c.; that her supply of timber, and materials for potash, is immense, and her resources for the fisheries almost inexhaustible; that, in the articles of prime necessity, in the establishments and manufactures of wool, cloth, nails, wood, hats, soap, tannery, and cordage, she has exceeded her proportion, when compared with the average of the United States.

Bridges.—Across York river, situated at the distance of a mile from the sea, there is a wooden bridge 270 feet in length, supported by thirteen piers, which served as the model of other Ameri-

can and some English bridges. It was constructed in 1761, by Major Samuel Sewall, a native of the town of York.

Roads.—1. The survey of a new road has been lately made, which is to extend from Hallowell, on the Kennebeck, across the highlands to the river *Chaudiere*, a distance of more than 200 miles. 2. Another road has been laid out from Bangor, on the Penobscot, to the river *Chaudiere*, a distance of about 200 miles, in a course north forty degrees west, passing through Brownsville, over a ridge of mountains, thence to the east of *Moosehead Lake*, and across the western branch of Penobscot river to St Joseph's church on the *Chaudiere*, forty miles from the city of Quebec, to which there is a good road. The country from beyond the ridge of mountains to that river is generally level. 3. Another road has been surveyed, from the river Penobscot to a new settlement on St John's river, in the north-east corner of Maine.

		Distance.
Portland	to Bangor,	118 miles.
————	to Eddington,	132
————	to Norridgewock,	112
————	to Farmington,	99
————	to Norway,	61
————	to Fryberg,	37
————	to Parsonsfield,	46
————	to Livermore,	78
Buckston	to Castine,	18

			Distance.
Castine	to	Trenton,	19 miles.
Norway	to	Buckfield,	18
Berwick	to	Parsonsfield,	42

Works relating to the History of this District.

One of the earliest accounts of this province is contained in *A Voyage into New England*, begun in 1623 and ended in 1624, by Christopher Levett, his Majesty's woodward of Somersetshire, and one of the council of New England. Lond. 1628.

1768. Hutchison's (lieutenant-governor of Massachusetts province) *History of the Colony of Massachusetts Bay*, from the first Settlement in 1628 until its incorporation with the colony of Plymouth, province of Maine, by charter of William and Mary in 1691.

Sullivan's (James) *History of Maine*, with a Map of the District. Boston, 1795, 1 vol. in 8vo, pp. 420.

Morse's *Geography*, article Maine, 6th edition, 1812.

Barker's (Dr Jeremiah) *Account of Febrile Diseases in the County of Cumberland*, inserted in the fifth volume of the *Medical Repository of New York*, p. 144.

Hazards' *Collection of American State Papers*, containing the charter of 1628, (1st vol. 239 ;) the *Laws of the Ecclesiastical Court*, (1st vol. p. 488,) and other curious documents relating to the early state of this colony.

Greenleaf's (Moses) *Statistical View of the District of Maine*; more especially with reference to the value and importance of its interior. Addressed to the consideration of the legislators of Massachusetts. 1 vol. pp. 154. Boston, 1816.

The *Memorial of Mark Langdon and Others to the Legislature of Massachusetts*, 1816.

An Act concerning the Separation of the District of Maine from Massachusetts Proper, and forming the same into a separate and independent state; passed 19th June 1816.

CHAPTER IX.

NEW HAMPSHIRE. *

SITUATION AND EXTENT.—This state is situated between $42^{\circ} 42'$ and $45^{\circ} 13'$ north latitude, and $4^{\circ} 23'$ and $6^{\circ} 10'$ east longitude from Washington. The Atlantic Ocean washes eighteen miles of its coast, from which it extends to Lower Canada. Its length, from north to south, is 168 miles, and its greatest breadth, on the 43d parallel, is about 90 ; but it gradually decreases as it runs northerly, being only 55 miles on the forty-fourth degree of latitude, and at the northern extremity not more than 19. *Boundaries.*—North by Lower Canada ; south by Massachusetts ; east by the province of Maine and the Atlantic Ocean ; west by Vermont. The area is about 9491 square miles, 6,074,240 acres, of which nearly 100,000 are covered with water.

* This name was given by Captain Mason, to whom, jointly with Captain Gorges, it was granted, in 1662. Then it was named *Luconia*. It is also mentioned in history under the name of Mason's Patent, and Piscataqua.

Aspect of the Country, and Nature of the Soil.—

The country, to the distance of twenty or thirty miles from the sea shore, is generally level; then rising gradually, it swells into hills; and lastly, into a chain called the “White Mountains,” the highest parts of which are elevated 3000 feet above the level of the sea. The soil of the lower hills, valleys, and banks of the rivers, is very fertile, and produces excellent grain of every kind. The most valuable lands are along the borders of the large streams. These being annually overflowed, are enriched with a fat substance brought down from the hills, and there deposited. They are, notwithstanding, better calculated for pasture than tillage. The shores are sandy, but in some places produce large crops of what the natives call “salt hay,” of which the cattle are very fond. In the town of Rye there are 150 acres of this description, formerly covered with fresh water, and, since the year 1719, regularly overflowed by the tide.

Mountains.—The first range of mountains, called the Blue Hills, traverse the country at the distance of about thirty miles from the shore. A ridge of the “White Mountains” passes from the western parts in a north-easterly direction, between the waters of the Connecticut and Merrimac rivers, the highest point of which, near the 44th parallel of latitude, distinguished by the name of “Mount Washington,” was computed to rise about 5500

feet above the meadow in the adjacent valley, and nearly 10,000 feet above the level of the sea ; but, by the more recent barometrical observations of Dr Butler and Professor Peck, their elevation does not exceed 7000 feet. This is the highest land in New England.*

Temperature.—The cold weather generally sets in about the middle of September, and continues till the close of May, during all which time fires are kept up in every house, though sometimes the necessity for them ceases after the 1st of April. The frosts are light in September and October. In November the weather is variable ; the frosts are moderate, but not lasting. In December the frost becomes intense and durable. The snow falls to the depth of from two to four feet before the close of February ; and if a thaw takes place in January, which often happens, it is generally followed by a very severe frost. March is blustering and cold, but the snow sensibly sinks under the influence of the sun. In April it disappears in the open country. In winter the prevailing wind is from the north-west, which never blows in summer except after thunder, accompanied with rain. The greatest change of weather ever known in this state

* Memoirs of the Academy of Arts and Sciences, Vol. III. No. 43.

was in January 1810. On the 18th of that month, the thermometer, at noon, stood at 42° , and on the following day, at the same hour, it had fallen 12° below 0 ; and from the 19th to the 22d, it fluctuated between 7° and 14° below 0, indicating a greater degree of cold than was ever before experienced in the state.

Earthquakes.—After the shocks of 1727 and 1755, which extended through a great part of the American continent, some light strokes were felt in New Hampshire, almost every year, till 1764, and again in 1783, since which only two or three have been felt. *Volcanoes.*—The sides of the southern part of the chain of “ White Mountains ” present some volcanic appearances. The summit of Monadnock, more than 3000 feet high, is without vegetation, and large piles of broken rocks cover its sides. In the years 1730 and 1732, columns of smoke were seen to issue from West river mountain, near Connecticut river, and frequent explosions were heard by the garrison of Fort Dummer, at the distance of four miles. The place was afterwards examined by intelligent persons, yet no opening or crater was discovered, which renders it probable that this phenomenon was produced by the influence of the frost splitting the rocks, that were seen to lie in large masses under the mountain. The Aurora Borealis was first noticed in

1719 by the inhabitants, who say that this phenomenon is more frequent now than formerly.

Lakes.—There are several of considerable extent. The largest, known by the name of *Winipiseogee*, is twenty-four miles in length, from three to twelve in breadth, and contains a number of islands. It is frozen over during three months of winter, when the ice is strong enough to bear loaded sledges and teams; at other seasons it is navigable.

2. *Umbagog Lake*, the next in size, is situated in the north-eastern part of the state. The line of boundary which separates this state from Maine runs across it.

3. *Squam Lake*, to the north-west of the Winipiseogee, is five miles in length, and four in breadth.

4. *Sunapee Lake*, north of the mountain of the same name, is eight miles long, and three broad. Numerous ponds are seen throughout this state, of which the waters are peculiarly clear and wholesome.

Rivers.—The chief rivers are: 1. The *Connecticut*, which bends its course along the western side, above a hundred and seventy miles. It annually swells after the melting of the snow, ten feet above its summer level, and sometimes, after a sudden thaw and copious rains, it has been known to double this elevation. 2. The *Merrimac*,

formed of the waters of the Pemigewasset and Winnipiseogee streams, which issue from a mountain west of the White Hills; after their union, the course of the river is sixty-five miles south-east, and thirty-five north-east, to its outlet in the ocean at Newbury Port. It receives several streams; the principal of which are from the west. *Contoocook*, which joins it above Concord, is from sixty to seventy miles in length. 3. The *Piscataqua* river issues from a pond in the township of Wakefield, and runs in a south-eastern direction to the sea, a distance of about fifty miles, forming the boundary line between this state and the province of Maine. A branch of this river, called the *Swanscal*, has sufficient depth of water for vessels of five hundred tons. The navigation of all these rivers, at different distances from the sea, is interrupted by frequent and rapid cascades.

Islands.—The *Isles of Shoals*, eight in number, in latitude $42^{\circ} 59'$ north, and longitude $70^{\circ} 30'$ west from London, are situated partly in Massachusetts and partly in New Hampshire, and are completely barren, though a hundred persons live there who subsist by fishing. Before the revolutionary war, there were six times this number. These isles were discovered in 1614 by Captain Smith, whose name they bore till the revolution. A remarkable island is situated in a large meadow in the township of Atkinson, containing

seven or eight acres, which, when the meadow is overflowed by the means of an artificial dam, rises with the water to the height of six feet. This island was formerly covered with trees. Near the centre is a pond, containing fish, more than fifty feet in depth, of which the surface has, for some years, been gradually diminishing, and will probably soon be closed.

Minerals.—*Iron Ore.*—The *swamp* or bog ore, in Lamper Eel river, which, before the revolution, furnished bar iron of an excellent quality, is exhausted; and an extensive mine has been opened in the township of Franconia, in the northwest part of the state; and more recently, another in Enfield. *Native silver* is said to be found in small filaments at West Mountain, opposite the mouth of West River. *Plumbago*, or black lead, is found in the township of Sutton, and near the Monadnock mountains.

Freestone, at Piermont and Hanover. *Soap stone*, or steatite, at Cxford, on Connecticut river. *Mica*, or talc, in various parts. The largest plates or lamina, adhering to quartz, are found in the township of Grafton, and near Bellowsfalls in Walpole, about twenty miles east from Dartmouth college. It is used for lanterns and the windows of ships, as it is not broken by the discharges of cannon, or other accidents which destroy glass. A considerable quantity of it was, several years since,

carried as ballast in an American ship to the port of Brest, where it was employed by the late Mr Rochon as windows for the light-house, the glass of which had been destroyed by large birds dashed against it by the wind. *Ochres*, of a red and yellow colour, in Sommersworth, Chesterfield, and Jeffrey. Clay for bricks and pottery, in the towns of Exeter, Newmarket, Durham, and Dover. Alum, at Barrington, Oxford, and Jeffrey. *Fossil shells*: Oysters, mussels, and clams, at the depth of from 17 to 20 feet, near Lamprey river, in the town of Newmarket, and in the neighbourhood of Dartmouth college. *Mineral waters*: At the extremity of a curious cavern in Rattlesnake Hill, in the township of Chester, a small stream rises which is strongly impregnated with sulphur.

Forest Trees.—The hills and mountains are covered with pine, oak, walnut, cedar, hemlock, fir, beech, maple, balsam poplar, * butternuts. † In the ascent to the summit of the White mountains, the first four or five miles are covered with beech, hemlock, and some white pine; the next six or seven miles, the growth is chiefly black spruce, and higher there is scarcely any vegetation. Of *fruit-bearing shrubs*, there are the blackberry, ‡ and raspberry. § The richest soil pro-

* *Populus balsamifera*, Lin.

† *Juglans cathartica*.

‡ *Rubus fruticosus*.

§ *Rubus idæus*, Lin.

duces beech and maple, red oak, white, black, and yellow birch, white ash, elm, and elder. White oak and chestnut are found on hard stony tracts. Pitch pine on dry sandy places. White pine on a light, dry, but stronger soil. Spruce and hemlock on a thin cold soil. It is observed by Dr Belknap, that the trees which grow on high land are more firm and solid than those which grow in or near swamps, with the exception of the pine.

List of Forest Trees.

- | | | | | |
|----------------------------|---|---|---|-------------------------------|
| 1. Alder, | - | - | - | <i>Betula alnus.</i> |
| 2. Ash, | - | - | - | <i>Fraxinus excelsior.</i> |
| 3. ——— black, | - | - | - | ———— <i>sambucifolia.</i> |
| 4. Basswood, or lime tree, | | | | <i>Tilia Americana.</i> |
| 5. Beech, | - | - | - | <i>Fagus sylvatica.</i> |
| 6. Birch, black, | - | - | - | <i>Betula lenta.</i> |
| 7. ——— yellow, | - | - | - | ———— <i>lutea.</i> |
| 8. Button wood, | | | - | <i>Platanus occidentalis.</i> |
| 9. Cedar, red, | - | | - | <i>Juniperus Virginiana.</i> |
| 10. ——— white, | | | - | ———— <i>occidentalis.</i> |
| 11. Cherry, wild, | | | - | <i>Prunus Virginiana.</i> |
| 12. Chestnut, | - | - | | <i>Castanea vesca.</i> |
| 13. Elm, | - | - | - | <i>Ulmus Americana.</i> |
| 14. Fir, | - | - | - | <i>Pinus balsamea.</i> |
| 15. Hemlock, | - | - | - | ———— <i>abies.</i> |
| 16. Hornbean, | - | | | <i>Carpinus betulus.</i> |
| 17. Larch, | - | - | - | <i>Pinus larix.</i> |
| 18. Locust, | - | - | | <i>Robinia pseudo-acaciæ.</i> |
| 19. Maple, | - | - | - | <i>Acer negundo.</i> |
| 20. ——— red, | - | - | | ———— <i>rubrum.</i> |
| 21. ——— sugar, | - | | - | ———— <i>saccharinum.</i> |

22. Oak, black, - - - *Quercus tinctoria*.
 23. — chestnut, - - -
 24. — red, - - - — *rubra*.
 25. — shrub, - - - *Quercus pumila*
 26. — swamp, - - -
 27. — white, - - -
 28. — yellow, - - -
 29. Pine, pitch, - - - *Pinus tæda*.
 30. — white, - - - — *strobis*.
 31. — yellow, - - - — *pineæ*.
 32. Poplar, - - - *Populus tremula*.
 33. Sassafras, - - - *Laurus sassafras*.
 34. Spicewood, - - - — *benzoin*.
 35. Spruce, - - - - *Pinus Canadensis*.
 36. Walnut, - - -
 37. — white or round nut
 hickory, - - - - *Juglans alba*.
 38. Shagbarth, - - - — *cinerea*.
 39. Oil or butter-nut, - - - — *cathartica*.
 40. Willow swamp, white, *Salix alba*.

Shrubs.

1. Ash, prickly, - - -
 2. Bayberry, - - - - *Myrica cerifera*.
 3. Blackberry, runny, - - *Rubus molucanus*.
 4. — common, — *fruticosus*.
 5. Brandleberry, - - - — *occidentalis*.
 6. Common raspberry, — — *idæus*.
 7. Superb raspberry, — — *Canadensis*.
 8. Craneberry, - - - - *Vaccinium oxycoccos*.
 9. Whortleberry, - - - — *corymbosum*.
 10. Strawberry, - - - - *Fragaria vesca*.
 11. Black currant, - - - - *Ribes nigrum*.
 12. Wild gooseberry, - - - — *grossularia*.

13. Elder, black,	-	-	<i>Sambucus nigra.</i>
14. — red,	-	-	<i>Bibiernum opulus.</i>
15. — (Walter,)	-	-	
16. Ginseng,	-	-	<i>Panax trifolium.</i>
17. Black grape,	-	-	<i>Vitis labrusia.</i>
18. Fox grape,	-	-	— <i>ulpina.</i>
19. Hazle-nut,	-	-	<i>Corylus avellana.</i>
20. Witch hazel,	-	-	<i>Hamamelis.</i>
21. Ivy,	-	-	<i>Hedera helix.</i>
22. — creeping,	-	-	<i>Rhus radicans.</i>
23. Juniper,	-	-	<i>Juniperus sabina.</i>
24. Ground nuts,	-	-	<i>Helianthus tuberosus.</i> <i>Glicine apios.</i>
25. Poke or gurgel,	-	-	<i>Phytolacea decandra.</i>
26. Sumach swamp,	-	-	<i>Rhus toxicodendron.</i>

The noblest tree of the forest is the mast-pine, which, with a straight trunk from twenty to forty inches diameter at the base, rises to the height of 150 and sometimes of 200 feet. The common growth of various other trees is from 60 to 80 feet. In marshy places, and on the borders of rivers, there is a thick growth of underwood, which on the high lands is much less abundant, and is not seen on the dry plains.

Animals.—The moose deer have become scarce. The black bear is numerous, and makes great havock in the fields of Indian corn when it is nearly ripe. The racoon lives in hollow trees, and is also destructive to this grain. The wolf is very common, and commits great ravages among

the sheep. A bounty of twenty dollars is given for the head of this animal. He is taken by means of log traps, into which he is decoyed by a bait. The red and grey fox are common in the woods not far remote from population. Their skin is valuable, and they are often entrapped and taken. The wild cat is pursued for its skin, which is also valuable, especially the black kind. The beaver has become rare. The black squirrel is rare; but the grey, striped, and flying, are common. The forests abound with game. The partridge, quail, and wild pigeon, are the same as in Massachusetts. The wild turkey has retired to the inland mountainous country. The grouse, or heath-bird, is rarely seen except on the high mountains. The bays and rivers abound with cod, salmon, shad, eels, trouts, &c. The first, dried and salted near the isle of Shoals, is called dumb-fish, and is highly valued. It is taken near the coast in all seasons, and on the Piscataqua River in spring and fall. The largest fish is the halibut, some of which have been known to weigh 500 pounds. The bass and salmon have forsaken the rivers since the erection of dams.

Population.

In 1749	it was estimated at	30,000
1767	-	52,700
1775	-	82,200
1790	-	141,885

1800	-	-	183,858
1810	-	-	214,160

The increase *per cent.* in the last ten years was about 16 $\frac{2}{3}$.

This population, which is most considerable along the fertile borders of rivers, and on the sea-coast where commerce is most active, gives about twenty-two individuals to a square mile. New Hampshire ranks as the fourteenth state of the Union in point of population. The rapid increase is partly owing to emigration from the neighbouring states, and from different countries of Europe. Londonderry, an inland town, was peopled chiefly by natives of Ireland, who introduced there the manufacture of linen.

Longevity.—Diseases.—The robust form and florid complexion of the inhabitants indicate the salutary influence of the climate. Several instances of longevity are recorded, the most remarkable of which is that of a baker, Robert Macklin, a native of Scotland, who died in 1787, at the age of 115; and when more than eighty he walked in one day from Portsmouth to Boston, a distance of 66 miles, and returned the next. In the bill of mortality of Portsmouth for 1810, then containing 6934 inhabitants, the number of deaths was 111. Of this number

There died of old age, from 77 to 90 years,	-	7
Consumption,	-	27
Atrophy,	-	13
Casualties,	-	8
Suicide,	-	2
Infants by cholera morbus,		7
The births were of males,	-	130
females,	-	122
still-born,	-	6
The marriages,	-	64

In 1811 the number of deaths was 110, of this number there died, of Consumption,	-	26
Atrophy,	-	8
Convulsions,	-	12
Dropsy of the brain,	-	8
Mortification,	-	5
Palsy,	-	4

Those of old age were 70 to 90.

The births were of males,	-	130
females,	-	124
still-born,	-	15
The marriages,	-	69

Instances of Longevity.

In 1732, William Perkins died, aged	-	116
1736, John Bass	-	108
1739, James Wilson	-	100
1749, Colonel James Davis	-	88
1754, James Shirley	-	105
1754, William Scoby	-	110
1755, William Craigie and his wife, each		100
1772, Howard Henderson	-	100

James Davis left eight children who died between sixty-five and ninety-nine ; a daughter still

living in 1812, eighty-five years old, and also the widow of one, 102 years. In Londonderry the first settlers lived on an average to eighty years. In Barrington fourteen of the first planters were living in 1785, who were between eighty and ninety. Two ministers of the Gospel in 1812 were aged, the one eighty-seven, the other eighty-nine. Of the first inhabitants in Rochester who died within sixteen years preceding the year 1790, the ages were as follows :

Above 100 years,	-	-	1
Between 90 and 100,	-	-	2
80 and 90,	-	-	14
70 and 80,	-	-	20
60 and 70,	-	-	4
			<hr/>
			41

Living in 1790,

Between 90 and 100,	-	-	1
80 and 90,	-	-	9
70 and 80,	-	-	5
			<hr/>
			15

Males 7,—Females 8.

Of the first settlers in Barrington living in 1790, the ages were,

Between 90 and 100,	-	-	1
80 and 90,	-	-	10
70 and 80,	-	-	3
			<hr/>
			14

Males 11,—Females 3.

The most malignant disease ever known in this state was the putrid sore throat, called the *throat distemper*, which, in 1735, was fatal to 900 persons under twenty years of age. It re-appeared in 1784, 1785, 1786, 1787, and in 1802, but its ravages were not so great.

Character.—Dr Belknap observes, “ That firmness of nerve, patience in fatigue, intrepidity in danger, and alertness in action, are to be numbered among the native and essential characteristics of the people of New Hampshire.” Marriage is so general, that in the country it is rare to find an unmarried man of thirty years of age. Many women are grandmothers at forty, and it is not uncommon to see the mother and daughter suckle children at the same time, and the father, son, and grandson, working together in the same field. The women spin and weave their own flax and wool. Dancing is a favourite amusement, and the young people often assemble for this purpose, particularly at the time of military musters, sittings of the courts of justice, the erection of wooden houses, the launching of ships, the ordination of ministers, and the husking of Indian corn. Indulgence in spirituous liquors increases ; but the common drink is cyder, or a fermented liquor made of spruce twigs boiled in maple juice.

The political character of this state has hitherto resembled that of the other states of New Eng-

land. Two years after the adoption of the constitution, the scarcity of money and clamour for paper currency, united with other minor causes of popular complaint, led to open insurrection; and the rioters, finding their petition rejected by the assembly, placed sentinels at the doors, and held the members prisoners till the evening, when they were dispersed by the militia of Exeter. The leaders were afterwards taken and tried for treason, but received pardon from the court, on giving security for their future allegiance.

History.—The coast of New Hampshire and River Piscataqua were discovered in 1614 by Captain Smith, and the first settlements, consisting of fishermen and planters, were formed in 1623, under the direction of the Company of Laconia, associated by virtue of a joint grant, made the preceding year to *Gorges* and *Mason*, of all the country situated between the Merrimac and Sagadahock rivers, from the sea to the lakes and waters of Canada, which then composed two counties, New Hampshire and the province of Maine. The lands lying between the rivers Naumreag, Salem, and the Merrimac, from their sources to the ocean, including all islands within three miles of the coast, had been granted in 1621 to *Mason*, under the name of *Mariana*, these settlements being situated out of the limits of the territory of the Bay of Massachusetts. Three dif-

ferent associations were formed in 1638, for the establishment of laws and civil administration, but owing to division, they renounced the right of self-government, and placed themselves under that of Massachusetts. In 1680 disputes, originating concerning private claims to lands purchased from the Indians, and included in the above grants, led to the separation of the province, and a royal government was established by a commission from Charles the Second, which was dissolved by the provincial convention of 1775. For many years after the formation of the first establishments, the Indians had carried on an active war, excited in the first instance by the conduct of Captain Hunt, who, after the departure of Smith for England, decoyed on board his vessel twenty of the natives, whom he carried to Malaga, and sold for money. These wars inured the inhabitants to military life, and enabled them afterwards to render useful services during the struggle for independence. The first form of government adopted by the people was established in the provincial congress at Exeter, on the 5th of January 1776, which assumed the name, power, and authority of a house of representatives. The new and permanent constitution, similar in its leading features to that of Massachusetts, was adopted in 1784. The new federal constitution, when submitted to this state, was approved of by a majority of 11 ; and this being the

ninth state by which it was accepted, gave a majority in favour of its establishment.

Civil or Administrative Division.

Counties.	Townships.	Population.	Chief Towns.	Population.
Cheshire,	35	40,988	Keene,	1,646
Coos,	24	3,991	Lancaster,	717
Grafton,	35	28,462	Haverhill,	1,654
Hillsborough,	42	49,249	Amherst,	1,554
Rockingham,	46	50,175	Concord,	2,393
			Portsmouth,	6,934
			Exeter,	1,759
Strafford,	31	41,595	Dover,	2,288

Constitution.—The legislative power now resides in a senate and house of representatives, which together form the *General Court*, or Assembly; and each branch has a negative on the other. Money bills originate in the house of representatives, but may be amended by the senate, by which impeachments are tried. The senators, thirteen in number, are elected annually, by citizens paying taxes. The qualifications for a candidate are these: 1st, To be thirty years of age. 2d, To be seised of a freehold estate, of the value of two hundred pounds, within the state. 3d, To have been an inhabitant of the state seven years immediately preceding his election; and an actual resident of the district for which he is chosen. The house of representatives is composed of delegates from the

different towns, the number of which is proportioned to the population, as in Massachusetts, at the rate of one representative for every 150 rateable male polls of twenty-one years of age, two for 450, and so on, at the rate of one representative for every additional 300. The election is by ballot, and no person can be a candidate who has not an estate within his district of a hundred pounds value, one half of which is a freehold in his own right; he must also be an inhabitant of the district at the time of his election, and of the state, two years previous thereto. Every male inhabitant, of twenty-one years of age, (except paupers, and persons exempted from paying taxes by their own request,) has a right to vote for senators and representatives. The *executive power* is invested in a governor and five councillors.

The *governor* is chosen annually by the electors, as above described; and, if two persons have an equal number of votes, one of the two is chosen by the joint ballot of the assembly. No person is eligible to the office of governor unless he be thirty years of age, and have been an inhabitant of the state seven years next preceding his election. He must also be the proprietor of an estate of the value of five hundred pounds, one half of which must consist of a freehold in his own right, within the state. The governor, as president of the council, has the same powers and privileges as those of the

governor of Massachusetts.* Councillors are elected by ballot, by the freeholders, and the same qualifications are required for this office as for that of governor, except that three hundred pounds or more of the estate must be a freehold in his own right. The secretary, treasurer, and commissary-general, are chosen by the joint ballot of the senators and representatives. The treasurer of the county and register of deeds are elected by the inhabitants of the several towns. Representatives to congress are chosen by the inhabitants in town meetings; and the votes of each are returned to the secretary's office, and laid before the general court. In the same manner are chosen the electors for president and vice-president. The two senators in congress are elected by the general court.

Judiciary.—The judiciary is composed of a Superior Court, with four judges, who make two circuits annually through the counties; of an Inferior Court, with the same number of judges, in each county, who sit four times a-year; of a Court of General Sessions; of the Justices of the Peace, who sit at the same time; of a Court of Probate, with one judge, which sits monthly in each

* In 1815 a curious circumstance occurred. The governor being a federalist, and a majority of the council republicans, none of the leading men of either party could be nominated to office, those proposed by the one being rejected by the other.

county ; and of Justices Courts. The judges are appointed by the governor and council, and remain in office to the age of seventy, subject to impeachment on the address of the legislature. The Jury, of twelve freeholders, by whose verdict all causes are determined, are chosen by the select men of the several towns, among persons having an estate of fifty pounds value, one-third of whose names are put into one box, and two-thirds into another ; and from the former are drawn jurors for the Superior, from the latter for the Inferior Court, which is done by the town-clerk at a public town meeting. The General Court is authorized to reform the judiciary system, as it may think proper, or conducive to the public good ; to give to Justices of the Peace jurisdiction in civil causes, when a real estate is not concerned, and the damages do not exceed four pounds, with the right of appeal to another court, and trial by jury. The annual salary of the Chief Justice is 1500 dollars ; each associate judge has 1200 dollars. Sheriffs and judges cannot remain in office after the age of seventy ; nor can these officers act, or receive fees, as attorney or counsel to any party, or institute any civil suit, while in the exercise of their functions. The judiciary officers of the United States for this district are—1. A Judge, with a salary of 1000 dollars ; 2. An Attorney, with fees, &c. ; 3. A

Marshal, with fees ; 4. A Clerk, with fees. * The oath of allegiance in this state is as follows :—" I do solemnly swear, that I will bear faith and true allegiance to the State of New Hampshire, and support the constitution thereof,—that I will faithfully and impartially discharge and perform all the duties incumbent on me, as governor, councillor, senator, representative, military or civil officer, according to the best of my abilities, agreeably to the rules and regulations of this constitution, and the laws of the state of New Hampshire. *So help me God.*" The Quaker says, " This I do, under the pains and penalties of perjury." As all political institutions are liable to injury from gradual changes and encroachments, it is provided, that the constitution of this state shall every seven years be submitted to the revision of the whole qualified voters, that it may be purged of any abuses that have crept in, and brought back to its first principles.

Finances.—Every town chooses one or more collectors, to whom the several tax-bills are committed, with sufficient warrant to take property by distress, or to imprison. If any person refuse to give an invoice of his rateable estate, the select men are empowered to fix, by way of damages, the sum which is to be paid for taxes. County taxes are

* Register of the United States, p. 13.

laid by the justices of the quarter-sessions, and the proportion to be paid by each town is specified in the warrant of the county treasurer. The following report of the treasurer in 1816 will show the state of the funds at that period.

	<i>Dollars.</i>
Stock in the funds, owned by the state,	156,296
Amount of principal of that stock, received the	
preceding year, - -	10,380
Amount of interest, - -	7,488

Which sums have been converted into certificates of the New Stock in the funds of the United States, bearing an interest of 7 *per cent.* Of the monies borrowed in 1814, 28,000 of principal, and 3680 of interest, have been discharged. The expences of the preceding year amounted to 30,438 dollars, of which 299 were paid for bounties on hemp, and for killing wolves and wild cats; and 3000 for the use of the state prison; there remained cash in the treasury, 11,524 dollars. The following is the mode of taxation: The proportion which each town shall pay is fixed by an act of the General Court, and is levied by the select men, under a warrant from the treasurer, and an inventory of rateable estates is taken annually, in the month of April. The tax is as follows:

	<i>s.</i>	<i>d.</i>
Every male, between 18 and 70 years of age, polls	10	0
Horses and oxen, of five years old, - -	3	0
Cows, ditto, - - -	2	0

			s.	d.
Horses and cattle, of four years,	-	-	1	6
of three years,	-	-	1	0
of two years,	-	-	0	6
Orchard land, per acre,	-	-	1	6
Arable,	-	-	1	0
Mowing,	-	-	1	0
Pasture,	-	-	0	5

Mills, wharfs, and ferries, at one-twelfth part of the neat yearly income; all other buildings and uncultivated lands at one-half *per cent.* of the real value; stock in trade according to its real value; money at interest at three-fourths *per cent.*

Military Force.—The general and field officers of the militia are appointed by the governor and council; major-generals appoint their aids-du-camps; brigadier-generals their majors of brigade; captains and subalterns are recommended by the field-officers to the governor, from whom they receive their commissions; adjutants and quarter-masters are appointed by the commanding-officers of regiments; non-commissioned officers by captains and subalterns. Each regiment of 750 men has a colonel, a lieutenant-colonel, and two majors; each company consists of 68 rank and file, commanded by one captain, two lieutenants, and one ensign. The Staff consists of one captain-general, two major-generals, six brigadier-generals, one adjutant-general, and one commissary-general. In

1813, the year of the last official return published by Congress, the militia, including officers, amounted to 24,902. Infantry, 18,690 ; artillery, 735 ; dragoons, 1,776. The militia is organized in the same manner as in Massachusetts. The proportion of the whole number of militia, to the whole number of males between 16 and 45, is as 10 to 19. All able-bodied men are enrolled in the training band, except members of Congress and of the state legislature, civil officers, clergymen, deacons, church-wardens, instructors, graduates, and students of colleges and academies, schoolmasters, Quakers, select men, commissioned and non-commissioned officers of more than 35 years of age, masters of ships, physicians and surgeons, ferry-men, millers, Indians, Negroes, and Mulattoes. Men capable of bearing arms, from 45 to 60 years, with the above exceptions, form the *alarm list*, and may be called to serve, if necessary. This class is mustered twice a-year ; the training band four times. Every non-commissioned officer and private is to have in readiness a musket and bayonet, and all the appendages necessary for a marching soldier.

Internal Government.—The *police*, or protection of persons and property, is under the same regulations as in Massachusetts. Every township is a distinct corporation, in which officers are chosen for managing its affairs, and raising money, by

taxes, for the support of ministers, schools, paupers, bridges and highways, and other public purposes. The general superintendence is intrusted to three or five *select men*, by whom the taxes are laid, if not voted by the inhabitants. The observance of the Sabbath, and the execution of the laws relating thereto, is under the direction of tything men in the several towns.

Manners, Religion, and Laws.—When a marriage is to be celebrated, the intention of the parties is published three different times in the town of their residence. The ceremony may be performed within the limits of the county by either ministers of the gospel or justices of the peace, and the act is recorded by the town-clerk. Any other person, except a Quaker, against whom there is proof of having performed this ceremony, is subjected to a fine of L. 100.* Liberty in matters of religion is declared to be a natural and unalienable right; and no person is to be molested on account of his religious sentiments; no subordination of sect can be established by law. All unnecessary travelling, loitering, or indecent behaviour on the Sabbath, is forbidden under certain penalties. The religious denominations in this state are—Presbyterians, Episcopalians, Baptists, Qua-

* Before the Revolution, marriage was solemnized by virtue of a licence from the governor.

kers, Congregationalists, and Universalists. According to the report of the general convention of Baptists, held in Philadelphia in May 1817, the number of churches at this epoch was 53; that of members, 3738. There is a society of Sandemanians at Portsmouth, and another of Shakers at Enfield. It has been ascertained, that about one-third of the population is unprovided with regular religious instruction.* The people, however, in general, profess the Christian religion. *Slavery* is not prohibited by any express law, but there are few slaves. Some purchased their freedom by serving three years in the Revolutionary war; others have received it from their masters. Those who remain slaves are well fed, and treated like white servants. They are also under the protection of a law, 4th George I., still in force, namely, that, “if any man smite out the eye or tooth of his man or maid servant, or otherwise maim or disfigure them, he shall let him or her go free from his service, and shall allow such farther recompense as the court of quarter-sessions shall adjudge; also, that, if any person kill his Indian or Negro servant, he shall be punished with death.” The *conveyance of real estates* is made by deeds signed, sealed, and acknowledged before a justice of the peace, and recorded in the office of the

* See Beecher's (Lyman) Address on this subject.

county register ; otherwise, it is not valid against any other person than the granter. A copy of powers of attorney, by which a conveyance is made, and of affidavits taken from the record, is considered as legal evidence. Debts, not exceeding ten pounds, may be recovered before a justice of the peace. Prisoners for debt are allowed a room in the jail, and the liberty of the yard, and may employ themselves in making nails. The materials are provided by the county, to which three-fourths of the proceeds belong. If the debtor declares on oath that he is not worth more than six pounds and a suit of clothes, he may be discharged from confinement, but not from his obligation to the creditor. Criminal prisoners may, by the sentence of the Court, be forced to make nails, which are to be taken in payment of the fines, damages, or costs to which they are liable. Real estates may be devised by will, attested and subscribed in the presence of three witnesses. Posthumous children, and those for whom no legacy is devised, have the same right as if the deviser had died intestate. Probate of wills must be made within thirty days ; executors give bond for the faithful execution of their duty. On the application of the heirs, the judge of probate orders a division of estates. The estates of intestates descend in equal shares to children, or their legal representatives, subject to dower for widows. Personal estates are liable to

debts ; and if insufficient for their discharge, real estates are chargeable, provision being first made for the widow by the judge, who also appoints guardians for minors, and persons who have lost their reason, and representatives for absent heirs. The demands of creditors, resident in the state, must be exhibited within two years ; and, if non-residents, in three years, otherwise the debt is extinguished. Executors and administrators are exempt from personal arrests, unless in case of waste and embezzlement. Estates of insolvents are distributed among creditors by commissioners appointed by the judge of probate. The reversion of the widow's dower is subjected to the payment of debts, and may be sold like the rest of the estate. Proprietors of lands held in common, refusing to assemble for their mutual interest, are subject to the following regulation : 'The owners of one-sixteenth part of the whole may obtain a warrant from the justice of the peace to call a meeting, the members of which have power to charge every share with public taxes, or any sums for which it may legally become responsible, and the shares may be sold by the collector for non-payment, with the liberty of redemption within the space of two months. Trespasses on common lands are liable to heavy fines, if convicted on positive proof. If the evidence be only circumstantial, they may clear themselves by oath.

Partition of lands, holden in common, may be ordered by the judge of probate in the county where the land lies. The forfeiture of grants of lands for non-performance of conditions, is by the verdict of a jury, after a solemn hearing in the superior court, and after forfeiture; and the judges have a power in chancery in favour of individual grantees. Wood called lumber is surveyed by officers appointed by the president and council; and the penalty for delivering or receiving it without a survey is a forfeiture of one-fourth part. Flax seed, pot and pearl ashes, are also inspected by officers appointed by the same authority, whose duty it is to examine the casks, and brand them for exportation. The cask for flax seed contains seven bushels.

Education.—The Constitution has declared, “that it shall be the duty of the legislators and magistrates, in all future periods of the government, to cherish the interests of literature, and the sciences, and all seminaries, and public schools; to encourage private and public institutions for the promotion of agriculture, arts, sciences, commerce, trades, manufactures, and for the cultivation of the natural history of the country.” In conformity to this provision, the legislature has encouraged the establishment of schools, academies, and public libraries: 80,000 acres of land were

allotted for the support of *Dartmouth college*,* the income of which, in 1815, was estimated at about 2000 dollars. The charter was procured in 1769, by Dr Eleazer Whulock, who was afterwards appointed its first president, with power to appoint his successor. The college, situated on a fine elevated plain half a mile west from Connecticut river, is an edifice of three stories, 150 feet in length and 50 in breadth. There are seven professors in the college: *viz.* 1. Of Civil and Ecclesiastical History. 2. Divinity. 3. Mathematics and Natural Philosophy. 4. Anatomy. 5. Languages. 6. Theory and Practice of Physic, and Materia Medica. 7. Chemistry. Besides these, there are three tutors, who also give instructions in different branches. The number of undergraduates is about 150. The revenue of the college, accruing from the funds granted by the state, amounts to nearly 1333 dollars a-year, and, with the income arising from the price of tuition, to 3500 dollars. Since the date of this estimate, the university has received a donation from Mr Whulock, the president, of real estate, amounting to between eighteen and twenty thousand dollars. The medical college is a brick edifice, seventy-five feet by thirty-two, and twenty-eight in height.

* So called from William Earl of Dartmouth, one of its principal benefactors.

The library of the college consists of about 3000 volumes. There is a school connected with the college, called *Moore's Charity School*, which has also a connection with the Society in Scotland for promoting Christian Knowledge. Its object is the education and religious instruction of the natives. Twelve thousand acres of leased land in Vermont, and in this state, but chiefly in the former, with eleven thousand dollars of money, have been appropriated to its support. This school has existed for more than 60 years. There are two vacations, the first of four weeks and a half, commencing the first Wednesday in August; the second of eight weeks and a half, beginning with the new year. In 1814, the number of students was about 160; the number of graduates 33. The number of students who had graduated during nineteen years preceding the year 1790 was 252, among whom were two Indians. A principal object with the pious founder was to civilize the natives of the country, and to bring them under the influence of Christianity. The students are divided into four classes: 1. Freshmen, who study the learned languages, speaking, writing, and elements of mathematics. 2. Sophomers, who study the languages, geography, logic, and mathematics. 3. Junior Sophistus, who, besides the languages, enter on natural and moral philosophy, and composition. 4. The Senior class, who compose in

English and Latin, study metaphysics, and the elements of natural and political laws.

Academies.—There are four incorporated in the state. *Exeter*, established in 1781, has a fund of 80,000 dollars, arising chiefly from the donation of the honourable John Phillips of that place, whose name it bears. The number of students is from 60 to 80. It is under the direction of a board of trustees. The branches of education taught are, the learned languages, geography, astronomy, mathematics, logic, music, composition, and oratory. In the year 1790, when the actual income was 480 pounds per annum, the appropriations were as follow:

To the support of a Preceptor,	-	-	L.122
of an Assistant,	-	-	70
Intended for a Professor of Divinity,	-		133
To the maintenance of indigent scholars,	-		120
			<hr/>
			L.456

New Ipswich Academy was incorporated in 1789, with a fund of about 1000 pounds sterling. There are generally from 40 to 50 scholars. The price of tuition in 1790 was a shilling, the price of boarding, five shillings per week. The *Academy at Atkinson*, incorporated in 1790, was then endowed with 1000 acres of land, the donation of the honourable Nathaniel Penbody. The *Aurean*

Academy, at Amherst, was incorporated in 1791, with funds to the amount of L. 800. There are two others, one at Charleston, the other at Concord, both established in 1791. A *Medical Society* was incorporated in the year 1790, of which the then governor of the state, a physician, was president. The inhabitants of every town are obliged to support one or more common schools; and if neglected, the estates of the select men become liable to the sum sufficient to support a school during the time it has been neglected.

Agriculture.—The great business of life in this state is agriculture. The banks of the rivers and vallies produce fine crops of wheat, corn, and rye; also flax, hemp, and culinary plants. The soil is favourable to the grazing of cattle, and the produce of the dairy is excellent. In good lands the first crops of hay average about a ton an acre, and two tons of clover. The low lands along the large rivers produce from forty to fifty bushels of wheat per acre, the uplands half this quantity. The new lands produce good crops of Indian corn and winter rye. Of the former the produce is from thirty to forty bushels an acre. Barley, oats, pease, and flax, thrive best on land that has been under cultivation for some years. In the western parts of the state agriculture has made great progress. Every agriculturist has an orchard, where the apple and pear tree furnish great abundance of excel-

lent fruit. The farm-houses and farm-yards are neat and commodious. The quality of lands is indicated by the natural growth of the trees. Chestnut, walnut, and beech, are found on the best soils. Alder indicates good meadow ground. Of plants injurious to agriculture the Canada thistle (*Serratula arvensis*, Lin.) is the most difficult to eradicate. It has spread over the loamy and sandy soil of the middle and northern parts, where it grows from three to six feet in height. Cattle are housed from the beginning of November till the 21st of May, except when there is a scarcity of fodder, in which case they feed on the young grass, which shoots up about the beginning of May. Land is cleared of the trees by girdling them in summer. By this operation the vegetation is destroyed. The ground between them is sowed in August with winter rye and grass seed, and the next year it yields a good pasture; or the trees are all cut down in June, when the sap is in circulation, and burnt in the ensuing spring. Indian corn is then sown in holes made with a hoe. If the trees be destroyed late in summer, wheat or rye is sown on the new land, mixed with grass, and raked with an iron-toothed rake, or with the hoe. Sometimes a crop of Indian corn is raised the first year, and the second year a crop of rye or wheat, sown with grass seed, which is employed for pas-

ture or mowing the third year. When the soil is good, the two first crops will pay the expence of all the labour, and it is customary for the proprietor of lands to let them on this condition, he paying for felling the trees, and purchasing the grass seed, especially husbandmen, who fatten cattle for the market. It is found, that all esculent roots are larger and sweeter in the new than in the old soil. Light frosts sometimes take place in June and August, and destroy the crops of Indian corn. The only manure employed is that of the stables and cow-houses, which is spread over the fields in spring, or put into the holes where corn and potatoes are planted. The neat cattle of New Hampshire are of a large breed, of which the first, of a yellow colour, were procured from Denmark, and sent thither in 1633, by Captain John Mason and his associates, for the purpose of drawing lumber. The breed of horses has been neglected, as this animal is little used for draught. The proportion of horses to neat cattle is not more than one to twenty. Asses have been lately introduced. There are great numbers of sheep and swine. The latter are suffered to run in the woods in summer ; after harvest they are shut up, and fattened on Indian corn.

Value of Lands.—The value of lands and houses has been ascertained, by the operation of the direct

tax. In 1799 the lands in New Hampshire were
valued at - - 19,028,108 dollars.

The houses at - 4,146,938

23,175,046

In 1814 their value was 36,957,825

Increase - - 13,782,779

At the period of the last assessment the average value of lands, including houses, was nine dollars an acre.

Manufactures and Products of the Soil in 1810.—The inhabitants generally prepare their own clothing, and various manufactures have been lately established, some for the purpose of exportation. Those of tow cloth are very extensive. In 1810 there were ninety looms in the township of Hanover. Iron works at Exeter produce sufficient iron for the consumption of the state. Bricks and pottery are made in different places. Of gunpowder 1000 pounds are manufactured, value 750 dollars. Spirits, 20,560 gallons, value 22,160 dollars; 135,950 gallons of brewed liquors, from fruit and grain, value 74,450 dollars. Pot and pearl ashes. The number of brushes made in this state in 1810 was 1666, valued at 5000 dollars. At Exeter there is a manufactory of saddlery, a

duck manufactory, six saw mills, and a paper-mill. White pine for masts, yards, and planks of vessels. The masts are the finest in the world, being from 140 to 150 feet in length, and so durable, that, if protected from moisture, they will last twenty years. The roots of this tree are employed for fences, and it is said will last for a century. Hoops, from the saplings of white oak and hickery. Staves, from white and red oak. Cider, one barrel of which is obtained from ten to twelve bushels of apples, and gives about four gallons of proof spirits. Charcoal, of which one cord of wood, eight feet in length, four feet in breadth, and four in depth, yielded from forty to fifty bushels. One acre of wood-land yields fifty cords of wood.

Uses to which the Vegetable Productions are applied — Elm: The wood serves for the naves of wheels, the inner rind for the bottom of chairs and bed cords. Sassafras is an ingredient in the manufacture of beer. Sumach is used in tanning and dyeing. Wild cherry: The wood is employed in cabinet work. Locust: For posts, and trunnels of ships. Birch: Wood of the black birch, of a fine brown colour, is made into bedsteads, chairs, and tables. Oak: Black oak for the reels of ships, the inner bark for tanning. Red oak for staves. Swamp oak: Splinters of it are a substitute for whalebone. Yellow oak for staves and ship timber. White hickery for gun-stocks, axe handles, and

walking-sticks. Oil-nut : The extract of its bark an excellent cathartic ; also employed in dyeing grey and black. Chestnut, for fences and staves. Hornbeam, for levers, handspikes, and stakes. Beech, black, used for withes and witches. Button-wood for windlasses, wheels, and blocks. Yellow pine for the floors of houses, and decks of ships. Pitch-pine, for the same uses, for charcoal, and formerly for tar. Larch yields a turpentine, resembling the Burgundy pitch. Fir yields a fine balsam, which is contained in vesicles on the exterior surface of the bark. Spruce, black species ; the twigs, boiled and sweetened with molasses, make excellent beer. The white is used for spars. Red cedar is used for posts, and is more durable than any other wood. Poplar, or aspen, for lasts for shoes and turned work. Black poplar, or balsam tree. Its buds yield a balsam, resembling the balsam of Peru. White, or curled maple, for cabinet work. Black rock or sugar maple, for the sugar which the sap contains. The wood is also used for the felloes of wheels. White ash for the frames of ploughs and carts, and handles of agricultural and mechanical tools. Black ash, of which the red and yellow are varieties, is employed for baskets and brooms, being pounded with a maul, and its fibres thereby separated for this purpose. The roots of the yellow kind are used by turners for plates and bowls. The wild

grapes serve for wine of an inferior quality. The whortleberry is much valued as an agreeable fruit, and, in a dried state, is preserved for winter use. The craneberry yields an acid juice, employed in sauces. It is preserved in bottles for sea-voyages. The roots of the tuberous rooted *Glycine apios* are very palatable, and by the Indians are considered as excellent food. Ginseng is found in great plenty in the western parts of the state. Indian hemp: A fine thread may be made of the fibres of the bark. The silky down serves for candle-wicks.

Ship Building.—This country supplying all sorts of naval stores, numerous vessels are built on the Piscataqua river and its branches, and sometimes at several miles distance from the water, to which sloops of 100 tons are transported on the snow, on strong sledges of timber, drawn by 200 oxen, and placed on the ice, which dissolves in the spring, and leaves them floating. Fishing schooners and whale boats are sometimes built at the distance of two or three miles from the water, and then taken to pieces and carried thither. The price of construction is from eleven to twelve dollars per ton for the carpenter's work, and nearly a third more for iron and other work.

Fisheries.—The cod fishery is carried on either by boats or schooners. In the winter season the boats go out in the morning, and return at night. In the spring and summer they remain till they are

filled. The schooners make three trips to the banks in a season. The large thick fish first taken in spring, are salted and dried, and afterwards kept alternately above and under ground till they become mellow, and in this state they are called dumb-fish. The fish caught in summer and autumn are exported to Europe and the West Indies. A schooner from twenty to fifty tons, manned with six or seven men, and one or two boys, brings home from 500 to 600 quintals of fish, split, salted, and stowed in bulk. Certain arts are still preserved in this state, which the inhabitants derived from the Indians. In the river Piscataqua, lobsters and flat fish are chiefly taken in the night. They are attracted to the canoe by the flame of a knot of the pitch pine, which exposes them to the view of the fishermen, who are expert in lancing them with a spear. Salmon, shad, alewives, smelt, and lampreys, are caught by means of a scoop-net, which consists of a long pole, with a wooden bough at the extremity, to which the net is fastened. Frost-fish are taken with a wooden forceps or tongs, and black eels in cylindrical baskets, into which they run through a hole resembling that of a wire mouse-trap. The *logtraps* or *cul-heag*, for taking wolves, bears, and martins, consists of two heavy pieces of timber fastened at one end and open at the other. The upper one rests

on a sharp perpendicular stick, the other end of which is placed on a round one lying across the lower log. Short stakes are driven in, so as to form an inclosure, leaving room for the animal to approach the bait fastened to the round stick, which, as soon as touched, rolls, and the upper log falling, he is crushed to death without injuring the skin. This mode is chiefly practised in the months of March and December. *Snow-shoes* are an useful contrivance. By means of a stick which projects behind, and gives an impulse to the body at every step, a person may walk faster on the snow than on the ground. The flesh of animals is preserved by stuffing, and covering them with snow. Wild ducks, when they shed their feathers in August, and the young are yet unable to fly, are caught by driving them into small creeks, from which they cannot escape. They are preserved by smoking or salting. Leather is rendered very soft and pliable by soaking it in a lather made of the brains and soft fat and marrow of the animal, after which it is dried in smoke, then washed and soaked in warm water, placed before a slow fire, rubbed and stretched till it becomes dry, after which it is scraped with a knife of an elliptical form. The various methods of preparing Indian corn, of roasting and boiling the ears, were also derived from the Indians.

*Commerce.**—The staple commodities are ships, lumber, provisions, fish, horses, pot and pearl ashes, flax seed. *Exports.*—Indian corn, live stock, beef and pork, pickled fish, whale oil, ship timber, tar, lumber, pot and pearl ashes, tow cloth, butter and cheese, flax seed, and bricks, which are carried to different ports, according to the cheapness and facility of transport,—to Boston, Portsmouth, Portland, Hartford, and New York.

Amount of Exports.

In 1795,	-	230,000 dollars.
1799,	-	361,000
1810,	-	234,650

Imports.—West India rum, gin, molasses, wine, sugars, tea, coffee, cotton, cheese, salt, nails, sea-coal, steel, lead, and grindstones. About 27 schooners, and 20 boats, exclusive of those belonging to the Isles of Shoals, are employed in the fisheries, which, in 1791, produced 25,850 quintals. From a memorial of the shipowners and persons concerned in foreign commerce, assembled at

* When this state was an English colony, the principal commerce consisted of wood for naval construction, lumber, and fish, which employed nearly 200 vessels. These productions were carried to the West Indies, where the vessels were reloaded for Europe, and sold with their cargoes. The sailors returned as passengers.

Portsmouth in February 1817, it appears, that the commerce of this state has of late greatly declined. During the year 1806, 103 vessels cleared for the West Indies ; in 1816 the number was but 44.

Tonnage Registered and Enrolled.

In 1798 it amounted to		19,220 tons.
1806	-	22,798
1810	-	28,820
1816	-	30,861

In 1817 no vessel was building in the state. The following observations are from the address of the governor to the people, dated the 5th of June 1817.

“ In New Hampshire the balance of trade is against us. Our imports from foreign countries, and from the southern section of our own country, exceed our exports. This order of things must necessarily drain off our money, and tend to produce a state of dependence on other nations, and other states, injurious to our interest, and dangerous to our freedom and independence. For it is with a state as with an individual, he that continues to buy much more than he sells, must be involved in debt, and sooner or later become poor. We may increase the number of our banking institutions, but they will not increase our wealth ; the precious metals will be sent to other countries to purchase goods we do not want, or such as we can

make ourselves. For these evils we may apply a gradual but effectual remedy, by the increase of agriculture and of manufactures.”

Banks.—New Hampshire Bank, New Hampshire Union Bank, Portsmouth Bank at Portsmouth, Stafford Bank at Dover, Exeter Bank at Exeter, two Concord Banks at Concord, Cheshire Bank at Keene, Hillsborough Bank at Amherst, Coso Bank at Haverhill. The New Hampshire Bank was established in 1792, with a capital stock of 60,000 dollars, which the stockholders had power to increase to 200,000 in specie, and 100,000 in any other kind of funds. The institution, which is established for fifty years, is under the management of a president and seven directors.

Harbours.—The only harbour is Portsmouth, two miles from the mouth of the Piscataqua River, where the largest vessels ride in safety in every season. Strongly fortified by nature, it is sheltered from every wind, and, owing to the rapidity of the current, is never frozen. Several ships of war have been built here.

Canals.—By means of locks and a canal, the Merrimac River affords a direct communication between Concord and Boston. There are two canals on Connecticut River, within the limits of New Hampshire. Along Amos Reag Falls in the Merrimac, and others farther up, short canals have

been opened. A canal runs eight miles through the marshes of Hampton and Salisbury, and meets the Merrimac opposite Newbury Port.

Roads.

	Miles.
From Concord to Portsmouth,	57
———— to Stratford,	143
———— to Dartmouth College,	62
———— to Fryberg,	88
Portsmouth to Lancaster,	131
———— to Brattleborough, (Vermont,)	105
Hampton to Plymouth,	83
Haverhill to Berwick, (Maine,)	41
Amherst to Windsor, (Vermont,)	68
Hanover to Haverhill,	35
Charleston to Winchendon, (Massachusetts,)	51
Kene to Groton, (Massachusetts,)	46
———— to Dartmouth College, (Hanover,)	65

The chief turnpike roads run from Walpole to New Ipswich; from Windsor to Amherst; from Concord to Portsmouth; from the same place through Londonderry to Boston; from Hanover to Boscawen; from Haverhill to Warren.

Works relating to the History of this State.

Belknap's (Rev. Jerem.) History of New Hampshire. 3 vols. 8vo, 1792. New edition, Dover, N. H., 1812. In 1784 this author was charged with the Geographical Description, Dr Cutler with the Botany, and Dr King with the Zoology and Ornithology.

The Isles of Shoals, formerly known by the name of *Smith's Isles* are minutely described in the Historical Collections of Massachusetts, Vol. VII. p. 242.

The *Laws of the State* were collected and printed in 1771. Those made after the declaration of independence were printed in 1780, and subsequent acts in 1789; when a new edition was made of permanent laws; to which is prefixed, the Form of Government and Bill of Rights.

In Hazard's Collection of American State Papers, Vol. I. p. 289, is contained the grant of this province to John Mason, by the Council of New England.

Maps.—Carrigam's (Philip) Map of this State and the United States, $5\frac{1}{2}$ by $4\frac{1}{2}$ feet, engraved at Philadelphia; 10 dollars.

CHAPTER X.

VERMONT. *

VERMONT, situated between $42^{\circ} 44'$ and 45° of north latitude, and $3^{\circ} 38'$ and $5^{\circ} 27'$ east longitude from Washington, is a mountainous and inland country. The boundary line that separates it from Canada on the north, is ninety miles long, and from Massachusetts, on the south, forty miles. It has New York on the west, and New Hampshire on the east, and its mean length, from north to south, is 157 miles. The distance from the ocean to the nearest point of this state is about eighty miles. Area 10,237 square miles, or 6,551,680 acres.

Aspect of the Country, and Nature of the Soil.—The Green Mountains, † from ten to fifteen miles

* The name Vermont, or Green Mountain, is descriptive of the natural growth of the trees of this soil, many of which are evergreens, hemlock, pine, spruce, &c.

† This chain begins in Canada, near the Bay of Chaleur, and passes through Massachusetts into Connecticut, near Newhaven

in breadth, traverse this state in a direction from north to south. These mountains, which run nearly parallel with the course of Connecticut River, are intersected by numerous vallies, the soil of which is deep, rich, and loamy. That of the hilly parts is also well adapted to pasturage, and other agricultural purposes. The most level tract is on the borders of Canada. Adjoining the rivers are fine plains and meadows; and between the banks of Lake Champlain and the mountains, there is a valuable tract of arable land, extending 100 miles in length, and thirty in breadth. The whole surface in its natural state is thickly wooded. Along the banks of the river, the white oak, beech, and elm, are abundant. The higher parts are covered with white oak, sugar-maple, butternut, ash, birch, &c., and the mountains are clothed with evergreens to their very summit.

Near Lake Champlain large trunks of trees have been found at the depth of thirty feet. In digging a well on a high ground near *Onion* River, frogs were discovered at nearly the same depth; circumstances which indicate a change in the beds of these rivers, produced by some violent convulsion of nature.

The height of Killington Peak in Sherburne, was found, by actual mensuration, to be 3454 feet above the ocean, and 3184 above the level of Lake Champlain, at the mouth of Otter Creek.

Temperature.—The climate is nearly similar to that of New Hampshire. The snow lies from the middle of December to the middle of March, during which period it is customary to travel in sledges. On the sides of the hills it is often from two to four feet in depth. It disappears about the middle of April, except on the highest parts of the mountains, where it lies till May. It is generally permanent from the 10th or 12th of December to the beginning of April, when it suddenly dissolves by the influence of a warm sun. In the low grounds it is from one to two and a half feet deep, and remains till about the 20th of March. The temperature of deep wells is about forty-three one-half throughout the year, which corresponds with the mean degree of heat deduced from thermometrical observations. The trees and shrubs put forth their buds from the 6th to the 20th of April, and flower from the 1st to the close of May. Wheat and oats are sown about the middle of April, and are reaped about the middle of August. The frosts commence from the middle of September to the 1st of October, and cease about the 20th of April or beginning of May. Notwithstanding the severity of winter, which is ten or eleven degrees colder than in the same latitude in Europe, young trees are seldom killed by the frost, and the cattle live in the woods. The weather during this season is generally fair and constant, and rain sel-

dom falls, though hail is not unfrequent. Where there is little or no snow, the frost is found to penetrate to the depth of between three and four feet. The ice of lakes and stagnant waters, in the severest winter, seldom exceeds thirty inches in thickness ; that of running streams is somewhat less. It generally dissolves in the last days of March. In April and May the weather is mild and pleasant, with frequent showers. The heat of summer, in the middle of the day, is often uncomfortable, but the evenings and nights are cool and pleasant. The most agreeable season is from the beginning of September to the middle of October, after which, to the close of November, there are frequent rains, winds, and snow. Thunder and lightning are common in the months of May, June, July, and August. The extreme heat is 94° of Fahrenheit ; the extreme cold 27° below zero, the mean heat $43\frac{1}{2}^{\circ}$.* The north, north-west, and west winds, which are the most prevalent, are dry, elastic, and invigorating ; those from the south, and south-west, are warm and relaxing.

The wild pigeon makes its appearance about the 20th of March, and departs in the first days of October, indicating the period of warm weather.

Lakes.—Lake Champlain, which receives several

* Observations by Dr Williams during three years, in latitude $43^{\circ} 38'$.

rivers from the east, has been already described. * The other lakes are Memphremagog, Willoughby, and Bombazon. The first receives three considerable streams, Black, Barton, and Clyde rivers, which, if navigable throughout, would form a direct communication between the northern parts and Canada. The last lake, situated in the county of Rutland, gives rise to a branch of Pultney River.

Rivers.—The rivers descend from the Green Mountains, and run on the east side into Connecticut River, on the west into Lake Champlain, except some few which, having a northerly direction, flow into Lake Memphremagog, and through the river St Francis into that of St Lawrence. Of these the most considerable are, Otter Creek, Onion River, Lamoille, and Michiscoui, on the west side; on the east, Waniastic, or West River, White River, and Sassumsick. *Otter Creek*, which flows in a northern course, nearly ninety miles, is navigable from its source for large vessels to the Falls of Vergennes, eight miles from its mouth in Lake Champlain, and between these and other falls at Rutland, Pitsford, and Middleburg, it has water for the largest boats. *Winouski*, or Onion River, rises in Cabot, runs first south-west twenty miles, and afterwards north-west sixty to Lake

* See Chapter III.

Champlain ; it is navigable for small vessels five miles from its mouth, and higher up for boats between the different falls and cataracts. The river *Michiscoui* rises in Belvidere, passes through a part of Canada, re-enters the state at Richford, and runs in a western course to Michiscoui Bay, a distance of seventy-five miles. It is navigable for large boats to Swanton, seven miles from its mouth. The *Lamoille* issues from a pond in Glover, and runs in a north-west course of seventy-five miles to Lake Champlain. *White River*, so called from the colour which its waters derive from the white stones and gravel of its bed, rises near the centre of the state, and empties itself into the Connecticut River four miles below Hanover. Its width, to some distance from its mouth, is from 100 to 150 yards. *Oupompanoosuck*, which empties itself into the same river at Norwich, is forty or fifty yards wide, and, on account of its rapidity, is unnavigable. *Passumpsick* is about 100 yards in width, but its course is short and rapid. *Wild's River* is forty yards across, its course is also short and rapid. The navigation of the other rivers is obstructed by numerous falls and rapids.

Minerals.—Iron ore exists in great abundance on the west side of the Green Mountains, and near Lake Champlain. The mines are worked at Tinnmouth, Shaftesbury, Rutland, Shoreham, Monkton, and Milton. The Bog ore at the north end

of Lake Champlain, the brown hematites, at Monkton, and the magnetic ore on the west side of the lake, are worked at the Vergennes furnaces. Ores of lead at Thetford, and Sunderland, of copper, of ochre red and yellow.

Flint is found on Mount Independence in Orwell. *Jasper* of a beautiful red colour has been lately discovered. *Kaolin*, or *porcelain clay*, is found at Monkton, which retains its white colour in the fire.

Limestone.—*Marble* of a fine grain, white and clouded, extends from Bennington to the Michiscoui River. It is worked at Middleburg, Pittsford, and other places. Some of it is as white as the Carrara marble. *Soapstone* (steatite) is found at Oxford, Grafton, Athens, &c. *Slate* is found in strata nearly vertical at Dummarstown, also at Rockingham and Castleton, where it is of a pale red colour. *Turkey*, or whitestone, is found at Thetford; ore of *Manganese* at Monkton; *clay* for bricks, *pipe-clay* in Rutland; and *mill-stones* and *marl* in several places. *Pyrites* are found in Shrewsbury. A natural *stone bridge*, seven or eight rods in length, affords a passage over the river Lamoille.

Mineral Waters.—There are two chalybeate springs, one at *Orwee*, near Mount Independence, another at Bridport, the waters of which are said to contain Epsom salt in great quantity; another

was discovered in 1770 in the low lands, near the great *Ox Bow*, or bend of the Connecticut River. It has a strong sulphureous smell, and the surface, when not agitated, is covered with a thick yellow scum. It throws up continually a whitish sand; and is said to disappear in one place and spring up in another, at intervals of two or three years.

VEGETABLE KINGDOM.

Forest Trees.

Alder,	-	-	<i>Betula alnus.</i>
Ash, black,	-	-	<i>Fraxinus Americana.</i>
— white,	-	-	— <i>excelsior.</i>
Basswood, or lime tree,	-	-	<i>Tilia Americana.</i>
Beech, red and white,			<i>Fagus sylvestris.</i>
Birch, black,	-	-	<i>Betula lenta.</i>
— white,	-	-	— <i>populifolia.</i>
— red or yellow,	-	-	— <i>lutea.</i>
Butternut,	-	-	<i>Juglans alba, cortice cathartica.</i>
Buttonwood,	-	-	<i>Platanus occidentalis.</i>
Cedar, red,	-	-	<i>Juniperus Virginiana.</i>
— white,	-	-	<i>Thuya occidentalis.</i>
Cherry, wild, several species.			
Chestnut,	-	-	<i>Castanea vesca.</i>
Elm, red and white,	-	-	<i>Ulmus Americana.</i>
Fir,	-	-	<i>Pinus balsamea.</i>
Hacmatack,	-	-	
Hemlock,	-	-	<i>Pinus abies.</i>
Hickery, white or walnut,			<i>Juglans alba.</i>
Hornbeam,	-	-	<i>Carpinus Americana.</i>
Larch,	-	-	<i>Pinus larix.</i>
Maple, black,	-	-	<i>Acer saccharinum.</i>

Maple, red,	-	-	<i>Acer rubrum.</i>
—— white,	-	-	—— <i>negundo.</i>
Oak, black,	-	-	<i>Quercus nigra.</i>
—— chestnut,	-	-	—— <i>prinus.</i>
—— red,	-	-	—— <i>rubra.</i>
—— white,	-	-	—— <i>alba.</i>
Pine, pitch,	-	-	<i>Pinus tæda.</i>
—— white,	-	-	—— <i>strobis.</i>
—— yellow,	-	-	—— <i>pineæ.</i>
Poplar, black, or balsam,			<i>Populus balsamifera.</i>
—— white or aspen,	-	-	—— <i>tremula.</i>
Sassafras,	-	-	<i>Laurus sassafras.</i>
Shagbark,	-	-	<i>Juglans alba, cortice squamoso.</i>
Spruce, black,	}	-	<i>Pinus Canadensis.</i>
—— white,			
Willow, red,	-	-	<i>Salix.</i>
—— white,	-	-	—— <i>alba.</i>

The pine, maple, buttonwood, elm, hemlock, oak, basswood, ash, and birch, are from three to six feet in diameter, and from a hundred to two hundred in height. The most common trees are hemlock, elm, spruce, sugar maple, and beech. On the summit of the highest mountains, the trees, which are chiefly spruce, hemlock, and pine, do not grow to more than two or three feet in height, and their branches are interwoven, so as to form an impenetrable thicket. It is remarkable, that there is a much greater proportion of evergreen trees on the western, than on the eastern side of the mountains.

*The following are small Trees, Shrubs, or Vines,
valuable on account of their Fruit.*

Barberry,	-	-	<i>Berberis vulgaris.</i>
Bilberry, blueberry, choke-			
berry, whortleberry,	-	-	<i>Vaccinium corymbosum.</i>
Brambleberry,	-	-	<i>Rubus occidentalis.</i>
Running blackberry,	-	-	—— <i>Moluccanus.</i>
Bush cranberry, cranberry,			<i>Vaccinium oxycoccos.</i>
Mulberry,	-	-	<i>Morus nigra.</i>
Black raspberry,	-	-	<i>Rubus idæus.</i>
Red raspberry,	-	-	—— <i>Canadensis.</i>
Strawberry,	-	-	<i>Fragaria vesca.</i>
Dewberry,	-	-	<i>Rubus cæsius.</i>
Cloudberry,	-	-	<i>Charnamorus.</i>
Partridgeberry,	-	-	<i>Arbutus viridis.</i>
Pigeonberry,	-	-	<i>Cissus.</i>
Wild gooseberry,	-	-	<i>Ribes grossularia.</i>
Upright blackberry,	-	-	<i>Rubus fruticosus.</i>
Cherry, black,			
Choke cherry, }	-	-	<i>Cerasus sylvestris.</i>
Cherry, red, }			
Black currant,	-	-	<i>Ribes nigrum.</i>
Black grape,	-	-	<i>Vitis labrusea.</i>
Fox,	-	-	—— <i>vulpina.</i>
Hazlenut,	-	-	<i>Corylus avellana.</i>
Junipers,	-	-	<i>Juniperus sabina.</i>
Red plum,			
Thorn plum, }	-	-	<i>Prunus sylvestris.</i>
Yellow plum, }			

*Other Esculent Vegetables, valuable on account
of their Roots and Seeds.*

Artichoke,	-	-	<i>Helianthus tuberosus.</i>
Indian cucumber,	-	-	<i>Medeola.</i>

Wild hop,	-	-	<i>Humulus lupulus.</i>
Wild leek,	-	-	
Ground nut,	-	-	<i>Glicine apios.</i>
Wild oat,	-	-	<i>Gizania aquatica.</i>
Wild onion,	-	-	
Wild pea,	-	-	
Long potatoe, }	-	-	<i>Convolvulus batatas.</i>
Red potatoe, }	-	-	

Medicinal.

Angelica,	-	-	<i>Angelica sylvestris.</i>
Arsemart,	-	-	<i>Polygonum sagittatum.</i>
Bittersweet,	-	-	<i>Solanum.</i>
Skunk cabbage,	-	-	<i>Arum Americanum.</i>
Clivers,	-	-	<i>Gallium spurium.</i>
Black elder,	-	-	<i>Sambucus nigra.</i>
Red elder,	-	-	<i>Viburnum opulus.</i>
Elecampane,	-	-	<i>Inula.</i>
Blue flag,	-	-	<i>Iris.</i>
Sweet flag,	-	-	<i>Acorus.</i>
Garget,	-	-	<i>Phytolacca decandra.</i>
Ginseng,	-	-	<i>Panax trifolium.</i>
Maiden hair,	-	-	<i>Adiantum pedatum.</i>
Pond lily,	-	-	<i>Nymphaea.</i>
Lobelia, several species.			
Mallow,	-	-	<i>Malva rotundifolia.</i>
Marshmallow,	-	-	<i>Althæa.</i>
Petty morrel,	-	-	<i>Aralia nigra.</i>
Black snake root,	-	-	<i>Actea racemosa.</i>
Blood root,	-	-	<i>Sanguinaria.</i>
Dragon root,	-	-	<i>Amur.</i>
Liquorice root,	-	-	—
Pleurisy root,	-	-	<i>Asclepias decumbens.</i>
Seneca snake root,	-	-	<i>Polygala senega.</i>

Wild rose,	-	-	<i>Rosa sylvestris.</i>
Sarsaparilla,	-	-	<i>Aralia.</i>
Solomon's seal,	-	-	<i>Convallaria.</i>
Senna,	-	-	<i>Cassia ligustrina.</i>
Golden thread,	-	-	<i>Nigella.</i>

Poisonous Plants.

Thorn apple,	-	-	<i>Datura stramonium.</i>
Baneberry,	-	-	<i>Actæa spicata.</i>
White hellebore,	-	-	<i>Veratrum album.</i>
Henbane,	-	-	<i>Hyoscyamus niger.</i>
Ivy,	-	-	<i>Hedera helix.</i>
Creeping ivy,	-	-	<i>Rhus radicans.</i>
Nightshade,	-	-	<i>Solanum nigrum.</i>
Swamp sumach,	-	-	<i>Rhus toxicodendron.</i>

(Samuel Williams' Natural and Civil History of Vermont, p. 67.)

Quadrupeds.—The quadrupeds enumerated by Dr Williams are thirty-six in number; of these the most remarkable are the bear; black-cat; wild-cat; catamount, deer; fox, red, grey, cross, and black; hare, martin, ermine, mole, mouse, porcupine, rabbit, racoon, skunk; squirrel, grey, black, red, striped, and flying; weasel, wolf, and woodchuck. In the rivers, ponds, and lakes, are the beaver, mink, musk-rat, and otter. Among the early settlers of this state these animals were so valuable for their flesh or fur, that they were constantly pursued, and, in many parts, several of them have entirely disappeared. The right of hunting, fishing, and fowling, is common to all, and at all seasons. The deer, which cannot be pursued dur-

ing the two last months of the year, is the only animal that finds protection.

Fishes.—The following fishes are found in the Lakes Champlain and Memphremagog, and also in several rivers: Alewife, bass, bream, bret, chub, dace, eel, minou, red-perch, white-perch, pickerel, or pike, pout, salmon, salmon-trout, shad, skinner, sturgeon, sucker, trout.

The salmon ascend to the Passumpsick, and other branches of the Connecticut river, and Lake Champlain, about the close of April. When found, they are full, and of an excellent flavour, and some of the largest weigh from thirty-five to forty pounds. They afterwards migrate to colder waters, and never pass to the south or west of Connecticut river. The largest of the salmon trout are from seven to ten pounds, and, according to Mr Allen, they have been taken in Davis and Loster Lakes of from twenty to thirty pounds weight. This fish is found in all the streams, but of late years has much diminished in number. The pike or pickerel, known by the Indian name of *muschitongoe*, grows to so great a size, that some have measured six feet in length, and weighed forty pounds. The largest trout, perch, and sucker, weigh from two to three pounds. A fish of a delicate quality, called the lake bass, weighing from ten to thirty pounds, is found in great plenty in Lake Willoughby, and other waters.

Population.—It is stated by Dr Williams, that, in Rutland, one of the principal towns, the deaths, in the years 1789,–90,–91, were, to the births, as one to four. Hence it seems, that the population doubled in a period of little more than nineteen years. In the town of Cavendish, the ratio of deaths to that of births, during seven years, was as one to seven, which gives a still more rapid increase.

The number of Inhabitants amounted in
 1790 to 85,589, including 271 free blacks.
 1800 – 154,465, ——— 557 ———
 1810 – 217,895, ——— 750 ———

which gives upwards of twenty persons to a square mile; from which it appears, that this state is the thirteenth in point of population. From the year 1790 to 1800, the increase was 68,860; during the next ten years it amounted to 63,446.

According to the census of 1810, the males under sixteen			
years were	.	.	56,429
Females under 16,	.	.	53,962
Total,			<hr/> 110,391
Males between 16 and 45 years,			40,469
Females,	.	.	41,775
Total,			<hr/> 82,244

Males 45 years and upwards,	13,053
Females,	11,457
	<hr/>
	24,510
Number of males,	109,951
females,	107,194
	<hr/>
Excess of males,	2,757

Character and Manners.—The people of Vermont have a florid complexion, are well formed, active, and robust. Their clothing is adapted to the climate, which, though very cold in winter, is regular, and not subject to those great and sudden changes, which on the sea-coast are found to be so injurious to health. The pursuits of agriculture, in which all are more or less engaged, are favourable to temperate habits, and diseases are rare. Their brave and intrepid conduct during the revolutionary war, in the capture of the British garrisons of Crown Point and Ticonderoga, and afterwards of General Burgoyne's army, has been the theme of universal praise. *

Every member of the family is actively employ-

* In a letter to the British ministry, this general observes :
 “ The inhabitants of the New Hampshire grants, a territory unpeopled, and almost unknown in the last war, now pour forth by thousands, and hang like dark clouds on my left.”

ed. The labours of the field are performed by the men, except in harvest, when the women assist in binding the sheaves. Mothers nurse their own children, and the young daughters cook, spin, weave, and knit. In winter, the favourite amusement is dancing. The farmer and day labourer partake of the same fare. The hour of breakfast is eight ; dinner is taken at noon ; and supper at eight. Like the inhabitants of most new countries, they are hardy, industrious, frugal, and jealous of their freedom.

History.—The first settlements began about the year 1724 ; and in 1760 a number of towns were already formed by emigrants from New Hampshire, Massachusetts, and Connecticut. Their progress was retarded by disputes concerning grants and demarcations, which were carried on with great violence, and on some occasions broke out into open insurrection. This territory was first claimed by the state of Massachusetts, the rulers of which, in 1718, gave 49,000 acres thereof to the state of Connecticut for some lands which the latter had ceded to the former. Notwithstanding this claim and cession, Vermont was considered as under the jurisdiction of New Hampshire till the year 1764, when, by act of Parliament, it was annexed to New York, under the name of Cumberland and Gloucester counties ; but the inhabitants finding that by this union they

would be obliged to purchase the lands they already occupied, and preferring to be incorporated with New Hampshire, remonstrated against this project. In the mean time, the war commenced against England, and the inhabitants seized the opportunity to declare themselves free and independent,—a circumstance which inspired the English with the hope of detaching them from the American cause. Various means were employed to effect this, which were at last defeated by an arrangement with the state of New York, in 1790,* as to their mutual claims, and by her admission into the federal union the year following. The new constitution of this state, which had been prepared and sanctioned in 1778, and was afterwards revised and improved in 1786 and 1792, was finally adopted in 1793. Vermont contributed to the success of the American cause by the gallant conduct of her militia. In 1777, a body of these troops, 800 in number, under Brigadier-general Starke, reinforced by a continental regiment under Colonel Warner, defeated, near Bennington, in the same day, two detachments from General Burgoyne's army, took 700 prisoners, four brass field pieces, and other military stores.

* New York withdrew her claims for the sum of 30,000 dollars.

*Civil or Administrative Division of the State, with
the Population of each County and Chief Town,
in 1810, the year of the last enumeration.*

Counties.	Townships.	Population.	Chief Towns.	Population.
Addison,	24	19,993	Middlebury,	715
Bennington,	16	15,893	Bennington,	611
Caledonia,	23	18,730	Danville,	771
Chittenden,	24	18,120	Burlington,	804
Essex,	14	3,087	Guildhall,	685
Franklin,	19	16,427	St Albans,	729
Grand Isle,	5	3,445	North Hero,	82
* Jefferson,			Montpellier,	
Orange,	20	25,247	Chelsea,	745
Orleans,	23	5,830	Craftsbury,	832
Rutland,	27	29,486	Rutland,	658
Windham,	24	26,760	Brattleborough,	786
Windsor,	23	34,879	Windsor,	898
<hr/> 13	<hr/> 242	<hr/> 217,895		

Constitution.—The declaration of rights, which forms a part of the constitution, states, that men have the right of enjoying liberty of conscience ; of publishing their opinions ; of trial by jury ; freedom of election ; freedom from search or seizure in relation to their houses, papers, and possessions, unless by a warrant on oath for the purpose ; that they are not liable to transportation, for trial, out

* Laid out since the census was taken.

of the state, for any offence committed therein ; nor obliged to give evidence against themselves ; that all power being derived from the people, the people have a right to establish their own government, and to reform or abolish it for the common benefit. The legislative power resides in a general assembly, composed of the representatives of the people, chosen annually by ballot, on the first Tuesday in September, by the male taxable citizens of twenty-one years, of a quiet and peaceable behaviour, who have resided in the state during the year preceding the election. Every town having eighty taxable inhabitants, at the expiration of seven years from the date of the constitution, is entitled to two representatives ; and during this interval, each inhabited town is entitled to one. A representative must have resided two years in the state, and the last in the town for which he is elected.

The legislature assembles on the second Thursday in October, and two-thirds of the whole number form a quorum. The supreme executive power is vested in a governor, lieutenant-governor, and twelve counsellors, chosen by the freemen on the day of the election of representatives. The governor is commander-in-chief of the forces of the state, but cannot command in person without the advice and approbation of the council. The lieutenant-governor, by virtue of his office, is second in authority. The council have power to judge

cases of impeachment and murder, to remit fines and grant pardons, except in capital cases. During the recess of the legislature, they may grant reprieves, and they have power to lay embargoes, or prohibit the exportation of any commodity for the space of thirty days. All bills are submitted for their revision and concurrence; and, though not vested with negative authority, they may suspend their execution until the next session of the legislature. A particular feature of this constitution is the "council of censors," thirteen in number, chosen every seven years, (commencing with the year 1785,) by the people, whose duty it is to examine the conduct of public officers, with regard to the expenditure of public monies, taxes, and the regular execution of the laws; to ascertain whether the representatives and superior officers have performed their duty as the guardians of public rights. For these purposes, they are empowered to examine persons and papers; to order impeachments, and to recommend the repeal of all laws contrary to the constitution. They are also empowered to call a convention, for the purpose of revising or amending the constitution, and to meet within two years after their sitting, having published the proposed alterations six months before the election of delegates, none of whom can be of the council or assembly.

Judiciary.—The judges are chosen annually

by the council and assembly, and, if impeached by this authority, are subject to removal by the governor and council. The common law of England, and the statute laws by which it is explained or altered prior to the year 1760, have been adopted, except when repugnant to the constitution, or to legislative acts. Of a hundred and sixty crimes punishable with death by the English criminal code, nine only are subjected to this punishment by the laws of Vermont.

Courts of Judicature.—The supreme court of judicature consists of three judges, who are annually chosen by the council and general assembly, and have cognizance of all actions and causes, civil and criminal. They have original exclusive jurisdiction in cases of adultery, polygamy, in all capital felonies, crimes and misdemeanours, in which there is a fine or penalty due to the state, or wherein the punishments, by common or statute law, extend to the loss of life or limb, or to banishment. The chief justice is authorized to call a special court, when it may be thought necessary. There is a court of chancery, of which the judges of the supreme court are judges, or chancellors; and the rules of practice nearly resemble those of the courts of equity in Great Britain. The county court consists of three judges, annually appointed by the assembly, who have cognizance of all criminal and civil matters, except such as belong exclusively to

the supreme court, or justice of the peace courts. The person prosecuted may appeal to the next supreme court. The justices of the peace are appointed annually by the general assembly, of which they are usually members. In criminal actions their powers extend to all pleas and actions in which the fine or forfeiture does not exceed the sum of forty shillings, or the corporal punishment of which is not more than ten stripes. In civil actions their powers are confined to cases in which the sum does not exceed L. 4, or to notes of hand and settled accounts, not more than double that amount. They have also power to bind over offenders for trial before the county or supreme court.

Finances.—The revenue of the state arises from taxes on persons, lands, and cattle, assessed in proportion to the value. A statement of the taxable property is delivered annually to the assessors, by each proprietor, in the month of July. In 1791, the amount of annual taxes paid by each person was but 9d. of the state currency. The salaries of the public offices were as follows :

Governor's salary,	-	L. 150
Treasurer's ditto,	-	118
Fees of lieutenant-governor,	15 shillings	<i>per day</i>
Counsellors,	-	7
Representatives,	-	6
Secretary of state,	-	12
Secretary of council,	-	9
Sheriff,	-	6

Chief-justice,	-	27 shillings <i>per</i> day.
Two assistant-judges,		22

In 1806 the taxable property of the state amounted to 2,738,538 dollars; the expences of government to 22,966 dollars. The collector is entitled to a fiftieth part of the expence of collecting, and a twentieth is deducted for the benefit of the poor.

Militia.—The militia consists of all the able bodied males from sixteen to forty-five years of age, (with the exceptions made by the other states, which we have already described.) It is divided into companies, regiments, brigades, and divisions. The men are obliged to provide themselves with arms, and to appear in review at least once in two years. The major-general and brigadier-generals are chosen by the legislature. In 1809, the militia amounted to 20,259, including officers, viz.—

Infantry,	-	-	15,543
Artillery,	-	-	303
Dragoons,	-	-	1,035

Religion.—In the declaration of rights it is stated, “that no man can be justly deprived or abridged of any civil right as a citizen, on account of his religious sentiments, or peculiar mode of religious worship; and that no authority can, or ought to be vested in, or assumed by any power whatever, that shall in any case interfere with, or in any manner control the rights of conscience, in the free exercise of religious worship.” In the plan

of government of 1786, a religious test was imposed upon legislators, which was annulled by that of 1792. In the grants of townships, the first settled minister, of any denomination, has a grant of land, which becomes his property ; another is reserved for a parsonage right, or the support of a regular minister, whose salary is regulated by a formal and voluntary contract with his church, which has the force and obligation of other contracts, in virtue of an act passed in 1787. In the towns established under grants from New Hampshire, 114 in number, 330 acres were reserved for the first settled minister ; another portion, to the same extent, called a *right*, as a glebe for the church of England ; a third for the support of a school ; and a fourth for the propagation of the Gospel, by means of an organized society. Under the grants made by Vermont, one right was reserved for a university, one for a town, one for a county grammar school, and one for the support of religion. The actual number of the different churches is as follows :

Congregational churches,	-	89
Baptists,	-	23
Presbyterians,	-	2
Episcopalians,	-	2
Universalists,	-	1
Friends,	-	1

According to the report of the general convention of Baptists, held in Philadelphia in May 1817, the number of churches was then 112; that of members was 8470. The Vermont Missionary Society consists chiefly of congregational ministers, who have an annual meeting, to which other persons are admitted on paying a dollar yearly into the funds.

Education.—The legislature, sensible that the diffusion of knowledge is the best means of promoting the good of mankind, have made provision in land, exceeding 80,000 acres, for the support of common schools in every town; and, in 100 of the townships, tracts of 350 acres each, estimated at about 33,000 in all, have been allotted for the use of grammar schools. In every county there are grammar schools, and in most of them one or two academies. So great has been the attention paid to this object, that it is rare to find a person in the state who cannot read and write.

The college at Burlington, on Lake Champlain, on the south side of Union river, was incorporated, in 1791, under the direction of ten trustees, and considerable sums were raised, by subscription, for erecting buildings and establishing a fund; but, notwithstanding the efforts made, there are but few students.

In 1800, the state having granted 33,000 acres of new land for the support of a college, another was incorporated at Middlebury, and a large edi-

fice was erected. It has a president, two professors, and two tutors. The salary of the professors is about 1000 dollars each. There is one professor for the Latin and Greek language, one for chemistry and mineralogy, and a *lecturer* on natural philosophy. The classes open on the third Wednesday in September, sometime after which the first vacation, of four weeks, takes place; the second, of six weeks, dates from the end of the first term, in the month of January; and the third, of three weeks, from the end of the second term, near the close of May. The period of study is four years; the number of students 150.

Slavery.—In the bill of rights it is declared, that no male born in the country, or introduced from beyond sea, can be held in bondage after twenty-one, nor a female after eighteen years of age.

Agriculture.—Agriculture, which affords the most easy and comfortable means of existence, is the occupation of nearly the whole population. Property in the soil is easily acquired. One hundred acres of land, in a new township, do not cost the purchaser more than he can spare from the wages of one or two years as a labourer; and the first crop of wheat will pay all the expences of clearing, sowing, and fencing, while the value of his lands is thereby increased to eight or ten times the original cost. An acre, which, in its natural state, costs but half of the price of a day's labour, will produce

from fifteen to twenty-five bushels of wheat, or other grain of equal value ; and, in the course of some few years, the cultivator may acquire for himself and family a comfortable and independent subsistence. * The soil is well adapted to wheat, rye, barley, corn, oats, peas, flax, hemp, and culinary plants. Potatoes thrive well without manure. Spring wheat, barley, oats, and peas, are sown from the 16th to the 20th of April. The first is ripe about the middle of August ; barley the 1st of that month ; oats about the 20th ; and peas the 1st of July. Indian corn is sown about the middle of May, and is ripe towards the 1st of October. Hay is cut about the beginning of July. Red and white clover, Timothy, and other grasses, are sown in May and September. The hay is cut in July. The natural pasture is excellent ; the beeves sent to market are esteemed among the best in the United States, though when young they have no other nourishment than what the woods afford. In winter, when grown, they are fed with hay, clover, turnips, pumpkins, &c. and the milch cows with wheat, bran, oats, and Indian corn.

The best sheep of two or three years of age weigh 120 pounds, and yield three or four pounds of wool, of which the farmers manufacture their own clothing. They are much esteemed for their mutton.

* Williams's History of Vermont, p. 313. Walpole, 1794.

When the acorn, beech-mast, and other nuts begin to fall, the swine are driven to the woods, where they fatten to an enormous size. Upon their return from the woods, it is customary to drench them with a dose of sulphur, after which they are fed on Indian corn or meal, to render their flesh firm and delicate. The hog prefers the beech-mast to the acorn. He is fond of the flesh of the rattle-snake ; he pursues and kills him with impunity, by means of his fat covering, which prevents the absorption of the poison so fatal to man and other animals. On new lands the common produce of flax is from four to five hundred pounds an acre, and every farmer raises enough for the manufacture of his family linen. The seed is sown about the middle of April, and the plant is gathered the beginning of August. In 1791 the wages of an agricultural labourer were seventy dollars a year, then equal in value to 120 bushels of wheat. In the season of sowing and reaping, the wages of a day labourer were half a dollar ; in winter about a quarter. For comfortable clothing the yearly expence was estimated at twenty dollars ; so that, according to this calculation, fifty dollars a-year may be saved, which will soon enable the labourer to become the proprietor of lands and stock. * In

* Williams's History, &c.

1810, the number of horses, horned cattle, and sheep, was found to be 450,000.

Value of Lands and Houses.

		<i>Dollars.</i>
Value of lands in 1799,	-	15,165,484
of houses,	- -	1,558,389
		<hr/>
		16,723,873
		<hr/>
Of lands and houses in 1814,		32,747,290
		<hr/>
Increase in the value of lands and		
houses in 15 years,	-	16,033,417

According to the valuations made in 1814, the average value of lands per acre was 6 dollars and 40 cents.

Products of Mineral Substances.—The iron works of Bennington county consist of a furnace and three forges; those of Rutland of three furnaces, fourteen forges, and a slitting mill; in Addison county there are four forges; and in Chittendon two, which yield annually bar iron to the amount of 1200 tons. The reddish ore melts easily, and gives from one-seventh to one-fourth of very malleable iron. The ore from the west side of Lake Champlain is of a blackish colour, mixed with grey flint stone, and containing grains of pure iron of the size of peas. Some of this mineral, not very fusible, yields four-sevenths of its weight of pure iron, which, owing to its superior

quality, is preferred for chains, nails, horse-shoes, &c. From a species of white clay, lately discovered at Monkton, crucibles are made, which are said to be of a good quality, and pots for melting glass. Marble of different colours, white, grey, and mixed, is found in different parts. During the years 1809 and 1810, 20,000 feet of slabs were cut by one mill. The value was estimated at about 11,000 dollars.* Calced limestone is found to be an excellent manure. The marshal's report in 1810 was as follows :

	<i>Dollars.</i>
Potter's ware, - - value	4,150
Cut marble, 20,000 feet, -	10,000
Copperas, 8960 pounds, -	1,200
Yellow ochre, 85 tons, -	10,025
Lime, 18,320 bushels, -	6,412

Products of Vegetable Substances.—The quantity of sugar manufactured from the juice of the maple tree is very considerable. In 1791 13,000 pounds were made by forty families of Orange county. In Cavendish township alone the quantity in 1794 amounted to 14,080 pounds; and it has been calculated, that if all the others manufactured in the same proportion, the whole annual amount would be a thousand tons. This useful article is manufactured to a greater or less ex-

* Hall's Literary and Philosophical Repertory, Vol. I p. 64 and 375.

tent, by two-thirds of the inhabitants. With no better apparatus than one or two small iron kettles, two or three hundred pounds of sugar are made, in the space of two or three weeks. The largest trees, of five or six feet in diameter, yield daily five gallons of sap, and from twelve to fifteen pounds of sugar during the season. The juice runs during four or five weeks in spring, and more abundantly when it freezes in the night, and thaws in the day. As soon as vegetation commences, it ceases to flow. From a statement of the maple sugar works, made in 1814, it appears that a ton of sugar and fifty gallons of molasses were produced from three hundred and sixty trees in one season, by a man and a boy provided with a yoke of oxen, drawing a kind of sledge. The whole expence, including buckets, was eighty-five dollars, the receipts four hundred and five. According to the calculation made by Dr Williams, in 1791, a thousand tons of pot and pearl ashes were manufactured annually. Every new settlement has a manufacture of this kind. It requires from four hundred and fifty to four hundred and eighty bushels of ashes to make a ton of pot-ash, of which the quality is excellent. The following statement is given by Lambert, in his Travels through the United States in 1806-7-8. A thousand pounds of oak ashes will make a hundred and eleven pounds of

pot-ash ; hickery, a hundred and eighty ; beech, two hundred and nineteen ; elm, a hundred and sixty-six ; maple, a hundred and ten.

Distilleries of spirituous liquors have multiplied to an almost incredible extent, owing to the great abundance and cheapness of the grain from which they are extracted ; viz. wheat, rye, and barley. Cider and beer are also made, but these wholesome beverages are not in general use. The most extensive brewery of porter is at Middleburg. The wild grape is used at table as a desert, and a pleasant beverage is made of the gooseberry and raspberry. Ginseng, which grows in great plenty and perfection, is a valuable article of commerce. The fruit of the butter-nut tree, which grows in clusters, and sometimes to the size of a hen's egg, is employed as a pickle ; and the oil extracted by pressure, or the process of boiling, is found to be efficacious in rheumatism and some other diseases. The bark is also useful as a black dye. The following calculation of Dr Williams will afford some idea of the quantity of timber. The number of trees growing on an acre is from a hundred and fifty to six hundred and fifty, according to the richness of the soil ; and the quantity of timber is from fifty to two hundred cords, the cord being eight feet in length, four in height, and of an equal width. The quantity from large pine trees is still greater ; but they are not considered as

cord-wood. The cabins of the poorer class of settlers are formed of the trunks of the elm and the spruce, and covered with the bark. It requires four days work of two men to complete one of these habitations. With the aid of clay, to fill up the interstices, they are warm and comfortable. The dwelling-houses, generally of wood, are neat and commodious.

Products of Vegetable Substances in 1810.

		Dollars.
Oil, gallons,	50,637	value 50,637
Spirits,	173,285	129,964
Paper, reams,	23,350	70,050
Maple sugar, pounds,	1,200,000	120,000

Products of Animal Substances.—The peltry, in 1791, amounted to between L. 1000 and L. 2000 a-year, and the flesh of some of the animals afforded a considerable quantity of food ; but, in proportion as the ground is cleared, the wild animals disappear. The salmon, salmon trout, pike, perch, and sucker, are found in great quantity. The two last have been sold at Tinmouth, in the fishing season, at a shilling a bushel. The fur of beaver is manufactured into hats. In 1810, the articles made of shell, ivory, and horn, amounted to 300 dozen, value 480 dollars.

Manufactures.—The whole value of manufactures in 1810 was 4,325,824 dollars, not includ-

ing those of a doubtful nature, amounting to 286,537 dollars, and consisting of maple sugar, pot and pearl ashes, and yellow ochre.

Commerce.—The exports consist of grain, flour, bar iron, nails, pot and pearl ashes, live cattle, horses, beef, pork, cheese and butter, lumber, peltry, and flax, which are sent to Montreal in Canada, and, by the cheapest river communication, to the cities and towns of New York, Portland, Hartford, and Boston. Flocks of cows and sheep are driven to the neighbouring states. The imports across Lake Champlain into Lower Canada consist of oak and pine, square timber and boards, staves, pearl ashes, provisions, &c. which, before the embargo in 1808, amounted to L. 160,000 sterling; the exports from Lower Canada, through the same channel, to about one half of that value, and consisting chiefly of peltry and salt.

The timber is floated in large rafts from the lake, down the river Richelieu into that of St Lawrence. Standard staves five and a half feet long, five inches broad, and half an inch thick, sell from L. 40 to L. 50 sterling the 1200. *

The exports in 1810 amounted to 432,631 dollars. The only port of entry is Burlington, on Lake Champlain. The articles of import are rum,

* See Lambert's Travels.

wines, brandy, gin, tea, coffee, chocolate, articles of British manufacture, coarse linens and woollens.

By the treaty of 1794, between the United States and England, the right of navigating Lake Champlain was secured to British merchants and manufacturers. American packets on Lake Champlain charge from three to four dollars for the passage from St John's to Skeanesborough, a distance of nearly 160 miles.

Banks.—The only one is the Vermont Bank, established in 1806. The directors, thirteen in number, are appointed annually by the legislature. It has four branches—at Burlington, Middleburg, Woodstock, and Westminster.

Bridges.—Onion river, about three miles from Burlington bay, is contracted by rocks to the width of seventy-five feet, and a bridge of wood has been erected, at small expence, of great convenience to passengers. The width of the river above and below these rocks is eighty-seven yards. The bridges across the Connecticut river, at the village of Windsor, at Bellow's Falls, and Hanover, are of a neat construction.

Canals.—In 1785, the English employed Captain Twist, one of their engineers in Canada, to ascertain the expence of a canal from the river St Lawrence to Lake Champlain. By actual survey and level, extending from the rapids of St John's, along the river Sorrel, to Chamble, it appeared,

that a canal, sufficient for the navigation of a ship of 200 tons, would cost the sum of L. 27,000 sterling. It was observed, that this canal, when opened, would extend the navigation 180 miles into a fertile country. A company was, some years ago, incorporated for the purpose of improving the navigation of the Connecticut river, by establishing locks at Bellow's Falls ; and this work was to be completed within the space of four years from the date of the act.

Roads.—The roads in the mountainous parts of the state are very uneven, covered with stones on the more elevated parts, and marshy in the vallies ; so that the usual progress of a man on foot or on horseback is not more than two miles an hour, and the tiresomeness of his journey is increased by the gloom of the forest, the unwholesome vapour of marshes, and the fall of enormous trees, which, owing to the great humidity of the soil, never warmed by the sun, are blown down ; and their roots, extending in a horizontal direction along the surface of the roads, carry with them all the incumbent earth which afforded them support and nourishment. *

* Castiglioni, Viaggio, &c. Tom. I. p. 116.

Roads.

Montpellier	{	to Haverhill,	-	44 miles.
		to Burlington,	-	34
		to Huntsbury,	-	68
Newbury		to Highgate,	-	109
Rutland	{	to Highgate,	-	94
		to Bason harbour,		63
		to Windsor,	-	40
		to Walpole, (MS.)		58
		to Williamston, (MS.)		64
Bennington		to Brattleborough,		36
Burlington to Montreal, by Lake Cham-				
plain,		-	-	110

List of Works relating particularly to the History of Vermont.

Williams's Natural and Civil History of Vermont. 1 vol. in 8vo. Walpole, 1794. A new edition appeared in 1810, with a Map of the state.

Allen's History of Vermont. 1 vol. in 8vo. pp. 281. London, 1798.

Whitelaw's Map of this state.

CHAPTER XI.

RHODE ISLAND.

SITUATION AND EXTENT.—This state lies between $41^{\circ} 22'$ and 42° of north latitude, and between 5° and $5^{\circ} 50'$ east longitude. It is bounded on the north by Massachusetts; south by the Atlantic Ocean; east by Massachusetts; west by Connecticut. It extends forty-nine miles from the Atlantic on the south to the Massachusetts line of boundary on the north, and the greatest width is thirty-seven miles. It stretches along the west coast of the bay twenty-two miles, and five along the eastern coast, containing about 1580 square miles, of which 190 are covered with water, and 90 consist of islands.

Surface and Soil.—This small territory, which includes Rhode Island * and Providence Plantations, has a low surface, except in the north-west-

* Called Isle of Rhodes by the first settlers, who, in 1638, purchased it from an Indian chief for a pair of spectacles.

ern parts, and the township of Bristol, where Mount *Haup* is situated, formerly the seat of the Indian king Philip. The soil is interspersed with rocks and stones, and, though not fertile, it has been adapted by improvement for the reception and growth of all the vegetable produce common to the climate of New England. The pasture is generally fine, and more particularly in the Narraganset country, situated between South Kingston and the Connecticut line of boundary. The land of South Kingston, near the sea coast, and Narraganset Bay, is very fertile and productive, consisting of a deep rich loam, with a very small portion of sand or gravel; and the temperature is so mild, that it is seldom injured by drought or frost. The most barren parts are towards the north-west.

Temperature.—Extending on the south along the shore of the ocean, and embracing towards the east considerable islands, the climate of this state, owing to its particular situation, is somewhat milder than that of Massachusetts, situated to the north and east. The cold of winter, though nearly of the same duration, is less intense, and the heat of summer is not so oppressive. For many years Newport has been the resort of the rich southern planters during autumn, which season, always unhealthy in the low lands of the Carolinas, is here delightful, from the first of September to the close of Oc-

tober. A late writer * observes, “ that, were he to select the most favourable spot in America as the place of his abode, his choice would fall upon the southern point of Rhode Island.” Another writer † observes, “ that, in point of climate and productions, as well as of appearance, Rhode Island is perhaps the most similar to Great Britain of any state in the Union. The winters are somewhat longer, and more severe ; the summers, perhaps, a little warmer ; but it resembles Great Britain in some measure in the defects of the climate, being from its situation subject to a moister atmosphere than many of the other states.” The month of April is generally cold and rainy ; May is temperate, regular, and favourable to rapid vegetation. The heat generally prevails during three months—June, July, and August. The winter is cold and rigorous during four months—from the first of November to the first of March. The snow falls from the first to the middle of December, and sometimes at an earlier period. The air, throughout the year, is pure and wholesome, especially in the Narraganset track, where no destructive disease has ever been known to prevail. The Narragansets were distinguished for their sacrifices. They had a spacious temple, and stated

* Volney.

† Mr Cooper.

times for their public assemblies. A fire was kindled in the temple, into which the Powacks cast the most valuable richness of the people, voluntarily brought by them, as skins, beads, hatchets, and knives. The Indians farther north, though not disposed to imitate their example, admired their piety, imagining that this was the reason why the plague or yellow fever, which had depopulated their country, had not raged there. *

Bays.—Narraganset Bay, one of the finest in the United States, runs above thirty miles into the country. The entrance of this bay is sixteen miles across. The north-west end forms Greenwich Bay, and the north-east Haup Bay. The latter is about five miles in length, and three in breadth. *Point Judith Pond* receives the waters of the Samatucket river, which are discharged into the ocean. This piece of water contains a cluster of islands, one of which has an area of ninety arable acres.† Providence Bay lies fifteen miles from Narraganset Bay, and is from one to three miles wide.

Rivers.—The chief rivers are Providence and Taunton, both of which empty themselves into Narraganset Bay. The former, which has one of its sources in Massachusetts, is navigable for ships

* Morse and Parish's History of New England.

† Dr Comstock's Description of South Kingston, inserted in the Medical Repository of New York for 1810, p. 227.

of nine hundred tons, to the town of Providence, thirty miles from the sea. Taunton river, which also rises in Massachusetts, is navigable for small vessels to the town of the same name, where the rise of the common tide is about four feet.

Islands.—In the bay of Narraganset, which is from two to fifteen miles in breadth, and thirty-three in length, there are several islands, of which the principal are, 1. Rhode Island, from which the state takes its name, fifteen miles in length, and nearly five in its greatest breadth, contains about fifty-two square miles, including three townships; Newport, Portsmouth, and Middleton. It is called the Eden of America, being considered as superior to all other places, in point of situation, soil, and climate. 2. The next in point of magnitude is *Block Island*, or *Manesses*, which is seven miles in length, and four in breadth, containing about twenty square miles. It lies seven miles to the south of Charleston, and fifteen southwest from Point Judith. The fuel of the inhabitants of this island is peat or turf. 3. The next in size is *Cannonicut Island*, situated three miles west of the first; it is ten miles in length, and one in breadth. The soil of this and the first is rich, and the pasture is very favourable to the growth of cattle and sheep. 4. *Prudence Island*, situated to the north of the river, and to the west of Rhode Island, is about six miles in length, and

one in breadth. There are several other smaller islands interspersed throughout the gulf.

Minerals.—*Iron ore* is here abundant and rich; that lying in a valley at the distance of seven miles west of the town of Providence, formerly belonging to Mr Brown, gave fifty per cent. of iron at the first fusion. Some of the ore is of a black colour, containing small pieces of galæna, and mixed with ochre. *Copper ore*, with magnetic iron ore, is found in Cumberland, near Diamond Hill. *Limestone* is plentiful in Providence county. *Marble* is there frequent, and of a good quality. *Serpentine*, near Newfort. *Loadstone* has been discovered in small quantities in the township of Cumberland. *Coal* has been lately found, of a good quality, on the north-west end of Rhode Island, opposite the mouth of Providence river. *Blind-coal*, or anthracite, at Portsmouth.

Mineral Springs. There are several within the state, but the one most frequented is that near the town of Providence.

Forest Trees —This state being generally under cultivation, has lost most of its forest wood.

Animals.—The wild animals, deprived of their cover, have disappeared. Of fishes there is a great abundance and variety. No less than eighty different kinds are seen in the market of Newport, of which the black fish, known by the name of Tataag, is in high estimation. The shores abound

with cod, halibut, mackerel, haddock, bass, and perch ; the rivers and bays with sheepshead, shad, and herrings. Sea-bass : Some of the largest weigh sixty pounds ; in Point Judith Pond, from two to forty pounds. A fish called the Horse-mackerel disappeared during the revolutionary war, which was ascribed by some to the noise of the guns of the French and English fleets ; others suppose, that they were destroyed by a storm, which drove them ashore on the coast of Maine, or Massachusetts.* The trout of the rivers and brooks is excellent. In winter the fish retire to the numerous bays and ponds which communicate with the ocean. In their passage in and out they are taken with nets, or by the hook and line, from projecting rocks. The cod fish, described by Castiglioni,† who supposes it to be that designated by Linnæus under the name of *Tetrodon testudinus*, is very remarkable. When taken alive and laid on the ground, or place where there is no water, it draws in air by the mouth in such a quantity, that it changes from an oblong to a round shape, and this operation is performed with a disagreeable grunting noise. When thrown into its proper element, it immediately resumes its natural form. Its colour

* See Dr Comstock's Description of South Kingston.

† Tome II. p. 102.

is white, with brown spots and streaks. Lamprey eels, of a delicious flavour, abound in Patucket river. Lobsters, oysters, and clams, are here found in great plenty.

Population.—The enumeration or census for the year 1730 was, whites, 17,302; blacks, 1648; Indians, 985; in all, 17,935.*

Increase of Population.	Including Blacks.		
In 1730 it amounted to	17,935	2,633	
1748	32,773	4,373	
1761	40,636	4,697	
1774	59,678	5,243	
1783	51,899 †	3,361	
1790	68,825	948 Sl.	3,407 Fr. Bl.
1800	69,122	380	3,304
1810	76,931	108	3,609

This last enumeration gives forty-nine persons to a square mile. The increase per cent. in ten years was nearly eleven three-tenths. The remains of the native Indians reside chiefly in the township of Charleston, speak the English language, and are treated with great civility. Their number, a few years ago, was about five hundred.

* Douglas's Summary, Vol. II. p. 39, London, 1755.

† This diminution was occasioned by the war. See American Museum, Vol. I. p. 305.

The principal part of agricultural labour was formerly executed by negro slaves, which accustomed white children to idle habits, and thus retarded the progress of the country. In the erection of churches, schoolhouses, and every species of useful and ornamental improvement, the people of this state are at least thirty years behind their neighbours in Connecticut and Massachusetts.* Their general appearance indicates health and strength, and bears evidence to the salubrity of the climate. The women especially have been long celebrated as among the finest in the United States.

Diseases.—Endemical disease is rare. The dysentery has sometimes prevailed in and after the warm season, owing probably to an immoderate use of fruit, and the neglect of warm clothing, at the first approach of cold. Pulmonary consumption has made terrible ravages among females about the age of marriage; young women, however, are still more numerous than men of the same age, owing to the great number of seamen which this state sends out, and the emigration of young men, who go to find an easier subsistence in the new states and territories of the western country. The yellow fever prevailed in some parts in the year 1797.

* Dr Comstock's Description of South Kingston.

Political Character.—The Rhode Islanders supported the revolutionary war with great gallantry, but they persisted till the year 1790 in refusing to ratify the new federal constitution, though established with the consent of the other states in 1787. They were accused of refusing to assist in suppressing the rebellion in Massachusetts, and of having given a free asylum to the offenders; for which reason the place for some time received the injurious name of Rogue's Island. They deserve great praise, however, for abolishing the slave trade, which had enriched many of the people in Newport. This was done some years ago, by an act of the legislature, prohibiting the trade between Africa and the West India islands. Rhode Island has the honour of having produced one of the most distinguished heroes of the revolutionary war, *Nathaniel Green*,* and the misfortune of having given birth to the noted traitor Benedict Arnold, who attempted to deliver into the hands of the enemy the commander-in-chief of the republican forces.

History.—At the time of the first settlements, Rhode Island was occupied by the Narraganset tribe of Indians, whose warriors, in 1620, were about three thousand in number; but in fifty years afterwards they were diminished by one-third. The king of the Wampanoags, who occupied the

* He held the second rank in the army.

neighbouring country, induced them to unite in an attempt to expel the English ; but, in 1674, (19th December,) a force was sent against them from Massachusetts and Connecticut, by which both tribes were completely subdued. Near Point Judith Pond is a piece of dry land, surrounded by a cedar swamp, where they had their strongest fort, palisadoed, and protected by a fence of trees, a rod in thickness, into which the only entrance across the water was on a single piece of timber. General Winslow, who commanded the assault, had under him fifteen hundred men, with three hundred from Connecticut, and a hundred and fifty Indians. The Indian force was about four thousand ; and so formidable was their resistance, that, before an assailable point was discovered, six captains fell, with eighty men.* This colony, which was a branch of that of Massachusetts Bay, owed its origin to religious intolerance. In 1635 Roger Williams, minister of Salem, on account “ of his Antinomian, familistical, Brownist, and other fanatical doctrines, though in other respects a good man, was excommunicated and banished from the colony of Massachusetts, by the assembly or legislature, as a disturber of the peace of the church and commonwealth.”† He retired, with his friends and adherents, forty in number, to a place

* See Morse and Parish's History of New England.

† Douglas's Summary. Article Rhode Island.

on the Patucket river, named Moosachick, which he purchased from the Indians, and called Providence. Here they formed a colony, and established a plan of government. In 1643 he passed over to England, and the year following obtained a charter of incorporation, under the title of "The Providence Plantations in the Narraganset Bay, in New England," with authority to act as freemen, in the formation of their constitution and laws, which were established by the general assembly, in May 1647. In 1662 a new charter was granted by Charles II. by which the colony was made a body politic or corporate, by the name of "The Governor and Company of Freemen of the English Colony of Rhode Island and Providence Plantations, in Narraganset Bay, in New England," with powers to grant liberty of conscience in religion, to call an annual assembly, composed of the governor, deputy-governor, ten assistants and representatives from the towns elected by the majority of freemen. This colony entered into the confederation of the United Colonies, in 1648; and, in 1684, when the charter was revoked by Charles II. it was united with the government of New Plymouth and the Bay of Massachusetts; but having only delivered up that which they received from the prince, when William III. mounted the throne, they made use of the other in favour of their rights. It is worthy of remark, that, in the town of North Kingston, near the

shore, lived Major-General Whalley, one of the judges of King Charles. In 1746 this state took an active part in the Indian war, raising three hundred soldiers, and fitting out a sloop of war, manned with a hundred seamen, to aid in the proposed expedition against Canada. In 1776 the British troops took possession of Rhode Island, where they remained a considerable time.

Civil or Administrative Division of the State of Rhode Island, with the Population of each County and Chief Town, in 1810, the Year of the last Enumeration.

Counties.	Townships.	Population.	Chief Towns.	Population.
Bristol,	3	5,972	Bristol,	2,692
Kent,	4	9 834	Warwick,	
Newport,	7	16,394	Newport,	7,907
Providence,	10	29,769	Providence,	10,071
Washington,	7	14,962	S. Kingston,	
	<hr/>	<hr/>		
5	31	76 931		

Constitution.—The charter of incorporation, granted by Charles II. in the fifteenth year of his reign, was to the inhabitants of Rhode island and Providence Plantations, in the name of the Governor and Company, to be holden of him, his heirs, and successors, as of his manor of East Greenwich in Kent, in free and common sockage. The king reserved to himself, as an acknowledgment of his sovereignty, the fifth part of the gold and silver ore that should be found within the territory. This charter forms the basis of the present

form of government, which consists of a council of twelve members and house of representatives, chosen by the freemen. The former, which includes the governor and deputy-governor, is chosen annually; the latter, by the citizens twice a-year. Each township has one representative. In his legislative capacity the governor has but one voice, and cannot give a negative to any act of the two houses. All judicial and executive officers are annually elected by the governor and company, or by the upper and lower house of assembly. Every process is issued in the name of the governor and company. The oaths of office and allegiance are made conformable to the principles of the revolution.*

Judiciary.—There is a supreme judicial court of five judges, and an inferior court of common pleas, and general sessions of the peace. In each county there is a court of common pleas. General sessions of the peace are held twice a-year, in order to hear and determine all matters and things, not capital, relating to the conservation of the peace. From the sentence of this tribunal appeal may be made to the superior court of judicature, court of assize, and general gaol-delivery. Its jurisdiction extends over the whole state, and sits twice a-year in each county. All process is in the name of the governor and company. The judges are appointed

* This charter is prefixed to the account of the constitution.

by the legislature for one year only, and are liable to impeachment for official misfeasance. The judiciary officers of the United States for this state are: 1. A judge, with a salary of 1000 dollars; 2. An attorney, with 200; 3. A marshal, with 200; 4. A clerk, with fees.*

Military Force.—In 1814, the militia of Rhode Island amounted to 8255, of which 6645 were infantry, the rest artillery and dragoons.

Religious Professions.—All men professing a belief in the existence of a Supreme Being, are equally protected by the laws, which leave the support of clergymen to the voluntary contributions of individuals. There are no days set apart for public fasting, as in some of the other states, but there is an annual thanksgiving, authorized by a proclamation from the governor. The religious denominations are: Baptists, Congregationalists, Quakers, Episcopalians, Moravians, and Jews.† The first, the most numerous, have five churches in the towns of Newport and Providence. According to the report of the general convention of Baptists, held in Philadelphia, in May 1817, the

* Register of the United States, p. 13.

† Mather, in his *Magnalia*, or History of New England, states, that in 1695 Rhode Island colony was a colluvies of Antinomians, Familists, Anabaptists, Antisabbaterians, Armenians, Socinians, Quakers, Ranters, and every thing but Roman Catholics and true Christians. *Bona terra, mala gens.* See Book vii. chap. iii.

number of churches was fifty-seven ; that of members 5945. The second sect have the same number, in the same places ; the Quakers and Episcopalians each two ; the Moravians one ; the Jews a synagogue. In the western parts, including a surface of thirty miles in breadth and fifty in length, and embracing one half of the population, there is but one minister of a regular classical education.*

Humane Societies.—The slave trade has greatly interested the humanity of the inhabitants of Rhode Island, who have established a society, not only for its abolition, but also for the improvement of the African race. A Marine Society has been established, at Newport, for the relief of the widows and orphans of seamen.

Literature.—It was a favourite tenet among the first clergymen of Rhode Island, “ that human learning is no way necessary to a Gospel preacher,” and this unfortunate opinion has probably operated against literary institutions, for which no great zeal is yet manifested. Dr Morse observes, “ that in the whole region west of the bay, scarcely a meeting-house or school-house is to be seen. Only a small part of the people have a Bible in their houses, and a very great proportion of them are unable to read or write. The college, founded in 1764, at Warren, and removed to Providence in 1770, was broken up during the revolu-

* See Beecher's Address on this subject.

tionary war, the edifice being occupied as an hospital and barracks by the French and American troops. In 1804 it received the name of Brown University, in honour of Nicolaus Brown, who enriched the institution by a donation of 5000 dollars. The building, a brick structure of four stories, containing forty-eight rooms, is 150 feet in length, and forty-six in width. The library contains about 3000 volumes, and the philosophical apparatus is valuable. There is a president, five professors, two tutors, and a librarian. The professorships are, of law, of moral philosophy and metaphysics, of materia medica and botany, of anatomy and surgery, of chemistry. This seminary is under the direction of a board of trustees, and a board of fellows of twelve members. The last includes the president, who, with seven of this number, must be Baptists. This board have the power of conferring degrees. The former consists of thirty-six trustees, of whom twenty-two are Baptists, five Friends, five Episcopalians, and four Congregationalists. In the passing of collegiate acts and regulations, both boards must concur. The president is professor of mathematics and natural philosophy. The professors and tutors may be of any religious denomination. There are three vacations; the first of three weeks, beginning with the college commencement, the first Wednesday in September; the second of eight weeks, from the last Wednesday in December; the third of two

weeks, from the third Wednesday in May. The number of students, in 1815, was 130; the number of graduates 47.

The academies lately established at Newport, Providence, Bristol, Warren, East Greenwich, and South Kingston, are not supported by the state. Some years ago a law was passed for the establishment of common schools, which was soon afterwards repealed. The public library at Newport, called Redwood Library, was founded in 1747, by the person whose name it bears, who enriched it with books to the value of L. 500 Sterling.

Agriculture.—Though the soil be light, it produces considerable crops of Indian corn, rye, barley, and oats. Wheat is also cultivated, but not in sufficient quantity for the wants of the inhabitants. Culinary plants are in great abundance. The pasture, owing to the maritime situation and mildness of the winter, is of an excellent quality, especially in Hancock and Washington counties, where neat cattle have grown to the enormous weight of sixteen, and even eighteen hundred pounds. There are numerous dairies, and the butter and cheese is of an excellent quality. The number of sheep reared upon the island is, upon an average, about 30,000. Fruit thrives here extremely, especially the apple, of which more cider is made than is required for a home consumption, particularly at Cranston, Johnston, and Smithfield. The farms and dairies of the Narraganset country were cele-

brated before the revolutionary war ; * but during this period they suffered greatly. The English troops in possession of Rhode Island cut down the fruit trees for fuel, ravaged the plantations, and seized the cattle for their own use. Of several thousand head there remained but 300 in 1786. The Narraganset tract, which terminates on the bay of the same name, produces a breed of pacing horses remarkable for their speed and vigour.

Value of Lands and Houses.—In 1799, the lands, according to the assessors of the direct tax,

were valued at - 8,082,355

The houses at - 2,984,002

Total, 11,066,357

In 1814 they amounted to 21,567,020

Increase, 10,500,663

At the last period, the average value of lands *per* acre, including buildings, was thirty-nine dollars.

Products of Mineral and Vegetable Substances.

—This state, since the commencement of the late war, has made a wonderful progress in manufactures. As early as the year 1796, there were establish-

* In Douglas's Summary, (p. 100.) it is stated, that a farmer, from seventy-three milch cows, made about 10,000 weight of cheese in five months ; that a cow yielded one firkin of butter, from seven to eight cwt. in a season, besides some cheeses ; that two acres of good land were sufficient for a milch cow.

ed at North Providence a slitting-mill, three anchor forges, two machines for cutting nails, one grist mill, one oil mill, three snuff mills, three fuling mills; and the number of each has since greatly increased. In 1810 the annual produce of salt was 800 bushels, value 600 dollars. In 1809, in the town and vicinity of Providence, there were seventeen cotton mills, with 14,296 spindles, yielding 510,000 pounds of yarn from 640,000 pounds of cotton; and seven additional mills were then erecting. The weaving looms amounted to 1100. The cloths manufactured, consisting of bed-ticking, shirting, counterpanes, stripes, checks, and ginghams, were considered equal to any imported goods of the same kind.

			Dollars.
Flax seed oil,	gallons,	9,560,	value 11,950
Spirits from grain and fruit,	—	1,193,398,	— 848,240
Currant wine,	barrels,	75,	— 4,990
Bark,	mills,	2,	—
Paper,	reams,	14,625,	— 53,297
Cable and cordage,	tons,	545,	— 163,500
Paper stamped,	pieces,	8,000,	— 8,000
Straw bonnets,	dozens,	7,260,	— 25,800
Grist mills,		22	
Saw mills,		28	

There are woollen manufactures at Warwick and Portsmouth. The number of hats manufactured in 1809 amounted to 50,000. The average value of each five dollars. The rivers and bays abound

with fish, which are constantly used as an article of food; and the fishery gives employment to a great number of hands.

Manufactures.—The whole amount of manufactures, in 1810, was 3,079,556 dollars, besides articles of a doubtful nature, viz. grist and saw mills, 58,000, in all, 3,138,356 dollars. This return of the marshal was stated to fall short of the real amount by twenty-five or thirty-five *per cent*.

Commerce.—This state, favoured with excellent harbours, and an easy access to the ocean, is admirably fitted for foreign commerce, in which upwards of 600 vessels are employed.* The exports consist of barley, grain, flax seed, spirits, horses, cattle, sheep, beef, pork, fish,† poultry, cheese, and cider; of cotton and linen goods, sail cloth, paper, bar and sheet iron, nails, anchors, and the iron work of vessels. The present imports are West India produce, logwood from Honduras Bay, and the manufactures of Europe and of India.

		Dollars.
The amount of exports, in 1791, was		470,131
in 1800,	-	1,322,945
in 1802,	-	2,433,263
in 1810,	-	1,331,576

* The number of vessels which entered in 1748 was fifty-six; of those which cleared out 118: which shows that this was a considerable place of commerce at an early period.

† The fish is carried to the distance of twenty or thirty miles into the country, and the surplus is salted and sold at Newport and Providence.

Banks.—There are thirteen banks, of which the capital, in 1813, amounted to 1,895,000 dollars.

Providence, - - -	450 000 dollars.
Rhode Island, - - -	100,000
Exchange, - - -	400,000
Bristol, - - -	120,000
Washington, - - -	50,000
Warren, - - -	85,000
Smithfield, - - -	60,000
Newport, - - -	120,000
Roger Williams, - - -	150,000
Rhode Island Union, - - -	200,000
—————Central, - - -	60,000
Narraganset, - - -	50,000
Commercial, - - -	50,000
Total, - - -	<u>1,895,000</u>

Bills in circulation, - - -	769,922 dollars.
Specie, - - -	689,981
Bills of other banks, - - -	245,273
Deposites, - - -	1,092,260
————— in other banks, - - -	329,212
Debts due to the banks, - - -	2,486,668

Canals.—Several are projected.

Bridges.—The bridge, which unites the eastern and western parts of the town of Providence, separated by the bay, is 160 feet long, and 22 feet in width. Another, across the falls of Patucket river, is of considerable size, and Central bridge and India bridge, lower down, have cost much labour and expence. In 1795, a drawbridge was

erected over Howland's ferry, between Portsmouth and Tiverton, where the water is 51 feet deep at low tide. The bridge, supported by 42 piers, is 900 feet in length, and 36 in breadth. The bridge between Portsmouth and Bristol was completed in 1809. The foundation, which was formed of immense quantities of stone, was carried up above the highest tide.

Roads.—The roads have been lately much improved. A turnpike road passes from Providence, in a west and south-west direction, 25 miles, where it meets one in Lisbon, in the state of Connecticut. To the south of this is another turnpike road, which crosses the Connecticut line, and passes through Norwich and New London to New-haven and New York. A third extends from the town of Providence, to the road which leads to Boston.

From Providence to Newport,	-	-	30 miles.
to South Kingston,	-	-	29
to Pomfret,	-	-	30
to New London,	-	-	55

Packet Boats.—The boats which ply between Newport and New York have excellent accommodations for passengers. The fare, including bed and provisions, is but nine dollars. The distance of 200 miles is frequently run, with a fair wind, in thirty hours.

A *Light-house* was erected, in 1810, on Point Judith, and in April 1816, 7500 dollars were ap-

propriated for rebuilding it. The keeper's salary is 260 dollars. The keeper's salary of Newport light-house 300, of Watch-hill Point light-house 200.

Books which relate particularly to the History of this State.

1. The History of Rhode Island, by the Rev. Mr Callender, a Baptist minister, published in 1738, referred to by Dr Morse.

2. Douglas's Summary. Vol. II. Sect. 10.

3. In Callender's Century Sermon there is a good Account of Rhode Island.

Blaskowitz, (Charles) Topographical Chart of the Bay of Narraganset, in the Province of New England, with all the Isles contained therein, among which, Rhode Island and Connonicut have been particularly surveyed. &c. 1777.

Carte hydrographique de la Baye de Narraganset dans la N^{lle} Angleterre, où se trouvent les Isles de *Connonicut* et de *Rhodes Island*, avec les differents bassins qui en forment l'enceinte, où les sondes du même ordre sont indiquées par des lignes suivies.

CHAPTER XII.

STATE OF NEW YORK.

SITUATION AND BOUNDARIES.—Between $40^{\circ} 33'$ and 45° north latitude, and $3^{\circ} 43'$ east, and $2^{\circ} 43'$ west longitude. It is bounded on the north by Lake Ontario and Canada; south by Pennsylvania, New Jersey, and the Atlantic Ocean; east by Vermont, Massachusetts, and Connecticut; west by Upper Canada, Lake Erie, Pennsylvania, and New Jersey. Its greatest length from north to south is 300 miles. Its breadth from the state of Massachusetts to Lake Erie, on the parallel of 42° , is 340 miles. On the east, Lake Champlain is the boundary for more than 100 miles. Along the north-western side, the St Lawrence river extends 120 miles; Lake Ontario, 200; Niagara river, 40; and Lake Erie, 70 miles. The area, exclusive of islands, is 55,000 square miles.

Mountains.—A long chain of mountains, stretching from north to south, separate the state of New York from those of Connecticut and Massachusetts. Towards the north, another chain runs along Lakes

George and Champlain; and two miles west of Hudson's river, is the great ridge known by the name of *Catskill*, the most elevated part of which, called *Round Top*, is 3560 feet above Hudson's river, according to the barometrical observations of Captain Partridge.

Aspect of the Country and Nature of the Soil.

—The country, on the west side of the Alleghany mountains, is generally level, particularly between the Seneca and Cayuga Lakes, and along the borders of the Mohawk river. On the eastern side, the surface swells into hills and ridges of various forms, with rich intervening vallies, covered, in the natural state, with lofty forests. The coast is sandy, the northern parts rough and mountainous, but the soil of the interior is generally rich, composed of black mould, reddish loam, or friable clays, which yield grain and fruit of an excellent quality, and in great abundance. The low lands, along the Genessee river, embracing a surface of 60,000 acres, are remarkably fertile. The *drowned*, or marshy lands in Orange county, contain about 50,000 acres, which are overflowed after heavy rains in the spring season. In 1808, a company was incorporated for the purpose of draining them. The soil of this county is a moist clay, with small stones intermixed, or a gravelly loam. *

Temperature.—In a country, which extends

* Dr Arnold's Topography of this Country.

from the ocean, over a space of five degrees of latitude, the climate is naturally colder near the northern extremity, but this effect is found to be modified by the influence of the great waters of the interior. The temperature, near the borders of Lake Erie, is found to be milder than in the same latitude on the Atlantic Ocean, as appears from the growth of the peach, and other fruit trees, which thrive so well, that they are cultivated by all the farmers. The winter usually begins about the 1st of December, and continues till the 10th or 12th of March, though subject to sudden changes; and the cold has sometimes been known to prevail beyond that period. On the 19th of May 1816, snow fell at Plattsburgh six inches in depth, and the inhabitants were seen to travel in sledges; but this is considered an uncommon event.

In 1817, the ice of the Hudson river did not break up till the 25th of March. It generally dissolves at Albany about the close of this month. Kalm states, "that, when he visited this place, the inhabitants crossed it on the ice, with six pair of horses, on the 3d of April." Another instance of great cold is given by Dr Mitchell. * In January 1765, Fahrenheit's thermometer, at the college of New York, fell six degrees below zero. From the middle of March to the last of April, the weather

* Mitchell's present State of Great Britain and North America.

is very variable, but a regular and pleasant warmth prevails in June, and, during the three succeeding months, the heat is very considerable. The autumn, which lasts from the 1st of October to the end of December, is the most agreeable season. Vegetation commences about the middle of March. The birds of passage begin to re-appear from the middle of April to the 1st of May. The harvest is generally finished about the middle of August. The following meteorological observations, made by me at Kingston, in Ulster county, 120 miles north of the city of New York, will serve to give a more accurate idea of the temperature of the seasons. *

Year.	Month.	3 o'Clock, A. M.		2, P. M.		8, P. M.	
		Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
1802	June,	75°	60°	82°	64°	76°	58°
	July,	82	67	92	74	85	62
	August,	83	66	90	72	86	64
	September,	78	52	88	60	80	53
	October,	74	42	84	50	78	44
	November,	48	29	58	38	57	30
	December,	51	2	58	16	46	2
1803	January,	51	7	56	13	43	9
	February,	50	6	46	14	47	10
	March,	56	6	75	19	58	18
	April,	72	33	86	34	70	52
	May,	76	36	90	52	70	56

The temperature of the coldest springs near New York is fifty-four degrees at the depth of thirty feet, and nearly on a level with the ocean. †

* See Medical Repository for 1804, p. 296.

† See Medical Repository of New York for 1804, p. 415.

Lakes.—The great lakes of this state have been already described in our general description of American waters. *Long Island Sound*, 140 miles in length, and from three to twenty-five in breadth, communicates with the ocean at each extremity, affording a fine navigation for the largest vessels. *New York Bay* is nine miles in length, and four in breadth, and opens into the Hudson river on the north. The tide rises about six feet at the city of New York. The smaller lakes will be described in connection with the rivers which flow through them.

Rivers.—The chief rivers are the Hudson or North river, * and the Mohawk, its great western branch. The Mohawk rises near Oneida lake, eight miles from Black river, and runs a south-east course of about 130 miles, to its junction with the Hudson, eight miles above Albany. The navigation of this river is obstructed near its mouth by rocks, called the *Cohoes Falls*, which extend from bank to bank, 100 yards in width, forming a perpendicular descent of thirty feet. At the distance of seventy miles from this outlet, the channel is obstructed by other rocks, called the *Little Falls*, of which the perpendicular descent, in their length of three-quarters of a mile, is forty-two feet. Along this runs a canal, with locks, for boat navigation. The produce of the western country,

* Known originally by the name of *Great River*.

which passes through the channel of this river, is disembarked at Schenectady, and transported sixteen miles by waggons to Albany, where it is shipped for its destination on board the vessels of the Hudson. The Hudson river issues from an elevated country between Lakes Ontario and Champlain, and intersects the state from north to south* for a distance of 250 miles. It is navigable for sloops of eighty tons to Albany, 160 miles from its mouth, and ships ascend as high as the town of Hudson. The tide flows some miles above Albany, where it is twelve hours later than at New York. The salt water is carried to the distance of fifty miles above that city, where its usual rise is about a foot; at Pellegels Island, it is about four feet; at Kinderhook, five and a half. The western parts of the state are watered by the *Oswego* river, which forms a communication through the Oneida lake, between the Mohawk branch of the Hudson river and Lake Ontario, by its eastern branch, called *Wood* creek, which, at Rome, twenty miles north from its source, runs in a western direction to the lake twenty-three miles, with a gradual descent of sixty feet, and the navigation is continued by means of thirteen canals, which shorten the distance by nine miles. After its passage through the Oneida lake, nearly thirty miles in length, it has the name of Onondago in its meandering course of eighteen

* Its course is south, twelve degrees west nearly.

miles to the junction of the western branch, where it takes the name of Oswego, and runs north-west forty-five miles to Lake Ontario. The whole descent between the two lakes is 130 feet. The western branch, called the *Seneca* river, rises to the south of Lake Ontario, and has the name of *Wood* creek to its junction with the waters of the Canandaqua lake, and afterwards that of the *Seneca* river, which it preserves to its junction with the Oswego. In this easterly course, it receives the waters of several lakes which extend in a south-south-eastern direction—the Seneca, Cayuga, Owasco, Sheneateless, Olisco, Salina, and Cross lakes. The first is forty-four miles in length, and from four to six in breadth; the Cayuga is nearly of the same length, and one mile in breadth; the Owasco is eleven miles long, and one broad; the Sheneateless is fourteen miles long, and one wide; the Olisco, Cross, and Salina lakes, each between three and four miles in length. Crooked lake, which empties itself into Seneca lake, and so called from its irregular shape, is seventeen miles in length. The southern extremity of these lakes is near to the two great northern branches of the Susquehannah river, the Tioga and Chenango, which water the southern parts of the state. The sources of this river are the Otsego and Caniaderago lakes, which are but twelve or thirteen miles south of the Mohawk river. The first is nine miles long, and more than one in width; the other is nearly as large. The north-eastern parts

of the state are watered by a number of streams running in various directions: the Sable, Saranack, and Little Chazy rivers, into Lake Champlain; the Salmon, St Regis, Racket, Grass, and Oswegatchie rivers, into the St Lawrence; the Black and Salmon rivers into Lake Ontario. Some of these have their sources in lakes, which are several miles in length. The western parts of the state are watered by the Genessee river, of Lake Ontario, and several streams which run into Lake Erie, and the channel which unites their waters. The Genessee river rises near the southern line of boundary, from which it proceeds in a north-west course of fifty miles, and then runs seventy in a north-eastern direction to Lake Ontario. It receives the waters of two small lakes, Canirus and Silver lakes. The Tonnewanto, Buffalo, and Cataragus creeks fall into the waters of Lake Erie. The Chatauque lake, which reaches within six or seven miles of Lake Erie, is eighteen miles long, and three broad, and its waters flow into the Connewango branch of the Alleghany river.

This state is wonderfully favoured by its water communication. On the east, Lake Champlain * extends from near the head of the Hudson river

* So called from Samuel Champlain, who, after founding the city of Quebec in 1608, the capital of New France, penetrated to this lake in 1611, then known by the name of Coslear.

to the northern limits. The north-western borders are washed, in their whole extent, by the river St Lawrence, and by the Lakes Ontario and Erie. Between the former and the southern boundary are the smaller lakes, which, by means of the Genessee and Oswego rivers, form a natural communication with the Hudson, and also with the Susquehannah and Alleghany rivers, that have their source within the southern limits. It has been ascertained, that, of 55,000 square miles, which this territory contains, between 4000 and 5000 are covered with water.

Islands.—The principal islands are three in number—York Island, Long Island, and Staten Island. The first, also known by the name of *Manhattan*, is fifteen miles in length, and one in breadth. The soil is very fertile. Long Island, separated from the former by East river, and from the state of Connecticut by an arm of the sea, called the *Devil's Belt*, or Long Island Sound, is 140 miles in length, and from one to fifteen in breadth.* This is the largest island from Cape Florida to Cape Sable. Through the middle runs a chain of hills. The Atlantic side is low, level, and sandy, and indented with bays. The greatest part of the surface is a level plain; the soil a spongy blackish earth, with a substratum of gravel, which absorbs

* It was near this island that the English first commenced the whale fishery.

the rain, and is unfavourable to vegetation. *Staten Island*, nine miles south of Manhattan, and separated from Long Island and the state of New Jersey by two straits, is eighteen miles in length, and six or seven in breadth. *Fisher's Island*, which lies off Stonington Harbour in Connecticut, is nine miles in length, and contains about 4000 acres. *Plum Island* contains 800 acres. *Grand Isle*, in Niagara river, is six miles in length, and three in breadth.

Minerals.—Of *iron* there is an inexhaustible quantity in the high lands, and in different parts of the state, as far as Indian river, or west branch of the Oswegatchie, where iron works are now erecting. The *iron sand* ore of the borders of Lake Champlain, and in the high lands, gives a metal of a very superior quality. *Native silver* has been found near Sing Sing, in a small vein. Ores of *tin* have been discovered in the high lands, and also in the counties of Essex and Clinton. Ores of *arsenic* are found in Orange county, in the town of Warwick. In 1812, Mr Jesse Buel, editor of the “Plebeian” at Kingston, Ulster county, sent me a piece of ore of *antimony*, found near that place, of which a hundred parts give from fifteen to sixteen of the metal, and 0.00025 of silver. The specimen analyzed by Mr Godon, and which excited some fruitless researches, was given to me by Dr Vanderlyn, to whom it was presented in his shop by some person, who pretended that

it was taken from a mine with which he was acquainted. *Lead* ore is found at Ancram, and Claverack, in Columbia, Essex, Clinton, Herkimer, and Ulster counties. In the Shawangunk Mountains are several veins, the ore from some of which yields 80 *per cent.* of metal. *Black lead*, or *plumbago*, exists near the city of New York, and in the high lands sixty miles north ; also in the counties of Ulster and Jefferson, and near Lake Champlain.

Flint is found at Black Rock, and in the Seneca prairies, imbedded in limestone ; also near Saratoga springs. *Quartz*, of which the Esopus millstone is made, is found in Shawangunk mountain, in the counties of Ulster and Orange. The rock on which stand the mills of the late Major Greer, in Ulster county, is a species of trap, which ought to be known, on account of its excellence as a whetstone. The colour is blackish ; it gives fire with steel ; its specific gravity is 2.6666. *Slate*, now employed for covering houses, is found on both sides of the Hudson river ; on the east side, at Rhinebeck, in Dutchess county, and on the west side, at New Salts, in that of Ulster. *Limestone* abounds in various places. *Magnesian limestone*, known by the name of *Dolomite*, near the city of New York ; *Swine stone*, or fetid carbonate of lime, in Dutchess county ; also near Lake Ticonderago, and the falls of Niagara. *Marble*, of great value, on account of its quality

and colour, abounds in the counties of Ulster, Dutchess, and Washington. A vein of a dove-colour, full of scallops, or *pectinites*, has been lately discovered in the neighbourhood of Ontario, in Jefferson county. Black marble, with white spots, is found at Marbletown, in Ulster county; at Granville, in Washington county; and at Ticonderago. Garnet, of a rose colour, exists near Fishkill. The western country abounds in *gypsum*, (sulphate of lime,) and a great vein has been lately opened, a mile above the town of Hudson, near the borders of the river of the same name. That of Onondago is very pure.* In the town of Vermilion, near Lake Erie, there is a bed of red earth, which is employed as a paint. *Coal* exists near the banks of the Hudson river, in the town of New Marlborough, to the west of Poughkeepsie. *Hydrogen gas*, or inflammable air, issues from the earth at Honeege, in the county of Ontario, at Steel's mills, between Chippewa and Niagara falls, and from the bottom of a small pond in Dutchess county. The *salt springs* of the western county promise an inexhaustible supply of salt, of which the annual quantity manufactured exceeds 700,000 bushels. Another salt spring has been lately discovered, in Hannibal township, Oswego county.

* See the Analysis by the Author, in the Medical Repository of New York for 1810, p. 77.

Caves.—In Dutchess and Ulster county there are two remarkable caverns. The latter, fourteen miles south-west from Kingston, is three quarters of a mile in length, from twenty to forty feet in breadth, and twenty in height. A stream flows through it, large enough to turn a mill, before it enters.

Mineral Waters.—Those of Ballstown, thirty miles north of Albany, and of Saratoga, ten miles north-east from the former, are much frequented, on account of their medicinal virtues, chiefly for their tonic and deobstruent qualities.* Their temperature in summer is 49° of Fahrenheit.† New Lebanon springs, twenty-nine miles south-west from Albany, are also frequented. In the town of Rensselaer, nearly opposite Albany, mineral waters, resembling those of Saratoga, have been lately discovered. There are sulphurous springs at Clifton, in the county of Ontario, eleven miles north-west from Geneva;‡ one in Litch-

* See Medical Repository for 1804, p. 303, where the first account of it, which I furnished, is inserted.

† Analysis of five quarts, equal to 288.75 cubic inches of the Ballstown and Saratoga waters.

Carbonic acid gas, 866.25 cubic inches, or 402.8 grains; muriate of soda, 198.4 grains; carbonate of lime, 140.8; carbonate of iron, 25.6; muriate of lime, 32; muriate of magnesia, 80; carbonate of soda; carbonate of magnesia; sulphureous impregnation.

‡ See Dr Mitchell's Description, in the Medical Repository of New York for 1811, p. 412.

field, fifteen miles south of Utica, and one on the west bank of Racket river, twelve miles from its mouth. The waters of Clifton springs deposit sulphur. Chappequa spring is a chalybeate, at Mount Pleasant, three miles from the Hudson river, and thirty from New York. On a mountain near Newbury, there is a mineral spring, whose waters create sickness and nausea. It is said to contain copper; and around it flame has been seen, as if issuing from the earth.* There is another spring, about two miles and a half from Newbury, on the west side of Snake hill, whose waters resemble those of Harrowgate, and have been lately frequented by valetudinarians, for chronic complaints. There is also a warm spring near Flushing, in Long Island.

Vegetable Kingdom.—The common forest trees are oak of different species, ash, walnut, pine, maple, beech, chestnut, birch, poplar, cherry, cedar, elm, hemlock, sumach, &c. The greatest proportion of timber in the western country consists of oak, elm, sugar, maple-tree, black walnut, beech, butter nut, chestnut, cucumber. The indigenous plum-tree yields a fruit of an agreeable flavour, which ripens late in autumn. The wild grape, of which there are four kinds, grows throughout the whole territory. In some places the wild gooseberry, with very small prickly fruit, has been seen.

* Dr Arnell's Topography of Orange County.

In the north-western parts, near the river St. Lawrence and Ontario, black and white oak abounds, interspersed with pine and hickory. The natural growth consists of maple, beech, elm, basswood, and birch. There are some tracts covered with pine. *

Animals.—The *mammoth*, of enormous size, formerly an inhabitant of this district, is only known by Indian tradition, and by the remains of the bones lately discovered. The skeleton of one, weighing nearly 1000 pounds, was dug up in 1801, in the county of Orange.† Part of other skeletons were found in different places, where marl abounds, and at the depth of ten or twelve feet below the surface. In 1817 another was found at the depth of four feet, in the town of Goshen, near Chester, on the farm of Mr Yelverton. The tusks were more than nine feet in length. The *black* and *grey* wolf were formerly numerous, which induced the municipal authorities to offer a premium for their destruction; since this, being every where pursued, they are now rare. The *bears* are still numerous near new settlements in the western parts, to which they are attracted by the Indian corn and young hogs, which they

* See Topographical Description of Jefferson County, in the Medical Repository for 1811, p. 23.

† See 4th volume of the Medical Repository of New York, p. 211-214.

greedily devour. Excellent hams are made of the grown bear, and the cub is by many considered as not inferior to lamb. The *cougouar*, called the *panther*, flies to the thickest woods from the approach of man, and seldom appears near his place of residence. The *elk* and *moose deer* still inhabit the uncultivated regions. The male of the latter, armed with enormous horns, grows to the height of nineteen hands. The woods of the Genessee county abound with deer. Previous to the year 1799 five hundred deer were annually killed, in the neighbourhood of Bath.* The other animals common to the eastern states are the grey and red foxes, martin, sable, racoon, skunk, mink, beaver, otter, fisher, musk rat, squirrel, and hare. The *musk rat*, of which Kalm saw great numbers on the shores of the Hudson, and whose odour in the night he found disagreeable, have become rare, on account of the value of their skin. For the same reason, the *martin* has almost disappeared, while the squirrel, on which he preyed, has proportionably increased. The last is numerous near cultivated lands, and nut-bearing trees. In October 1816, a hunting party, consisting of thirty-four persons, killed in one day 780 black squirrels,

* See Description of this county by Mr Williamson, published in 1799. New York. *Megapolensis* states, that in 1644 the Maguas, or Mohawk Indians, were glad to give a deer for a loaf of bread, a knife, or tobacco pipe.

near Rochester, in Genessee county, from which they were then migrating. Another party, on the first of that month, killed a still greater number, 4260, near the eastern part of the town of Scipio, in the county of Cayuga.

A *bald eagle* was lately shot in the Genessee county, on the farm of Mr Granger, whose wings extended measured seven feet. It weighed fourteen pounds, and so great was its strength, that it had killed several sheep. The *wild goose* has been domesticated by Mr Daniel Coles, of Oyster Bay, by taking off the extreme bone of the wing. Of wild fowl the *pigeon* is the most numerous. The *wild turkey* is become rare, even in the most western parts. Its domestication is remarked as a curious circumstance. Of birds of passage the swan, wild goose, and duck, are most valuable to the sportsman.

Of insects the most destructive are a species of *grasshopper*, known by the name of *locust*, and the Hessian fly, (*tipula*,) which appear in certain places after an interval of several years. *Musquitoes* * and *wood-lice* † are most troublesome in thickly wooded vallies.

Snakes. — In the uncultivated parts the black-snake, copper-head, and rattle-snake, are found. On the 3d of June 1817 a snake was seen by the crew of the General Scott schooner, thirty miles

* *Culex pipiens*.

† *Acarus Americanus*.

below Erie, and three from land, in the lake of this name, which was from thirty-five to forty feet in length; the neck ten or twelve inches in diameter; of a dark mahogany colour, nearly black. It raised its head out of the water a few yards from the vessel.

Fishes.—The Hudson is annually visited by immense shoals of shad, herring, and sturgeon. It has been lately ascertained, that the New York waters contain 147 species of fish, besides nineteen varieties, in all 166.* Oneida, and the other smaller lakes and rivers with which they communicate, also abound with excellent fish; bass, pike, white fish, salmon, trout, eels, and a fish known by the name of buffalo, which sometimes weighs thirty pounds. The largest salmon of Fish Creek and Seneca River often exceed this weight, and are sold from a dollar to a dollar and a half each. In the description of the lakes mention is made of the fishes with which they are peopled. In Lake Ontario there are sturgeon of 100 pounds weight. The muscalinga, described as a species of pike, weighs from ten to forty-five pounds; the salmon-trout fifty pounds. The oysters of New York are of a prodigious size and excellent quality. In Lake Champlain was formerly seen the fish known

* Described by Dr Mitchell, whose memoir on this subject is contained in the first volume of the *Memoirs of the Literary and Philosophical Society of New York*, published in 1815.

by the name of *chaousarou*, five feet long, as thick as a man's thigh; armed with scales impenetrable to a dagger; with a bony substance, flat, indented, hollow, projecting from under the throat, by means of which it catches birds among the reeds. This lake contains sturgeon, black bass, pike, and cat-fish.

Population.—The population of this state, ascertained at different epochs, is as follows:

In 1731, Inhabitants	50,291, including Blacks.		
1749,	100,000,		
1756,	110,317,	13,542	
1786,	238,897,	18,889	
1790,	340 120,	21,324 Sl.	4,663 Fr. Bl.
1800,	586,050,	20,613	10,374
1810,	959,049,	15,017	25,333

From the year 1786 to 1790, the population gained a yearly increase of $9\frac{5}{10}$ *per cent.* The increase in the last ten years was 372,999, or 64 *per cent.* In population this is the second state in the Union.

	Males.	Females.
According to the last census there were, under sixteen years of age,	239,635	226,756
Between sixteen and forty-five,	180,652	170,944
Above forty-five, -	53,985	46,718

The last census gives $20\frac{8}{10}$ persons to a square mile; and it results from the three last enumerations, that during this interval it doubled in less than sixteen years. It has been considerably in-

creased, however, by emigration from the New England states to the western country.

The progress of the population of blacks has been as follows :

In 1731 the number was	7,231	In 1790	21,324
1756	13,542	1801	20,613
1786	18,889	1810	15,000

Freeholders.—The number of freeholders

In 1793 was	36,333	In 1808	71,159
1801	52,058	1813 (by computation)	100,000 nearly.

The following table contains the enumeration of the inhabitants of the city of New York made in April 1816 :

	Males.	Females.
White inhabitants,	44,424	43,819
Aliens, - - -	3,891	3,094
Coloured, - - -	3,198	4,576
Slaves, - - -	288	389
		<hr/>
Total number of males,	51,801	51,878
females,	51,878	
		<hr/>
		103,679

Excess of females 77 ; Aliens of both sexes 6,985 ; Persons of colour not slaves 7,774 ; Persons of colour slaves 677.

Indians.—The remains of the six confederated nations, the Mohawks, Oneidas, Tuscaroras, Senecas, Cayugas, and Onondagas, inhabit the western parts of this territory. * In the war of the revolu-

* Spafford's Gazetteer of the State of New York, p. 49.

tion all these tribes were in favour of the English, except the Oneidas and Tuscaroras. The Pagan party of the Oneida nation, in the General Council at Oneida the 25th day of January 1817, proposed an address to the governor of the state, requesting to be known in all future transactions as "the second Christian party of the Oneida nation of Indians." Their conversion was produced by the religious instructions of a war chief of the Iroquois nation, Eleazer Williams.

Manners and Customs.—The population of this state is composed of emigrants, and their descendants, from every country of Europe, and also from the New England states. The latter have established themselves in the western parts. The southern, including the city of New York, are inhabited by the descendants of Dutch, Scotch, and Irish. The first constitute a great portion of the inhabitants of Albany, Kingston, and other villages; and there are several little colonies of German farmers, who, like the former, retain the language, habits, and customs of their forefathers. The Dutch are distinguished by their air and dress, their habit of smoking tobacco, and their great attention to domestic cleanliness, order, and economy. The manners and customs of the population, and even their physical character, are daily becoming more uniform. Every where from the ocean to the lakes we see the same robust form, and healthy complexion, among all classes,

the joint effect of abundance of provisions, ease, and independence. The usual period of marriage for males is from twenty-one to twenty-five, for females from sixteen to twenty. The natives are remarkable for their early maturity.

Amusements.—In the cities of New York and Albany the theatre is a place of fashionable resort ; and in all the towns dancing is a favourite amusement. Tea parties form the most common, and the most social mode of friendly intercourse. Gambling, horse-racing, and private lotteries, are proscribed by the laws. The young women of the higher and middle classes are fond of dress ; the young men of luxury of every kind ; but with marriage commences economy, and a strict adherence to domestic duties. It is worthy of remark, that, in the article of dress, the men follow the fashion of London, the women that of Paris. Slavery is chiefly confined to the descendants of the Dutch, who treat their slaves with kindness, and do not exact more labour from them than is usually performed by the white servant.

The friends of humanity regret the increasing appetite for ardent spirits, particularly in the populous towns. In 1811 there were 160 licensed taverns in the city of New York. Albany and other towns contain perhaps an equal proportion. This increasing use of spirituous liquors has increased the number of crimes. In the state prison of New York the number of prisoners, on the 1st

of January 1815, was 494, and during the year it increased to 789, of whom 182 were discharged by pardon, 17 at the expiry of their sentences, 29 died, and 2 escaped, leaving 559 in the prison on the 1st of January 1816. The number on the 1st of May ensuing was 654, namely, white men 481, white women 19, black men 98, black women 56, Total 654.

In Bridewell, at the same date, the number of prisoners was 215, viz. white men 105, white women 20, black men 60, black women 30. Near the close of the year 1815, 95 persons were confined in the debtors' prison including the liberties.

Prostitution.—In 1804, when the population of the city of New York was 60,000, the number of women of this description, according to the report of the magistrates, was 1050, or about one-sixtieth of the population. In London, at the same period, it was about a twenty-fifth.

Diseases.—The prevailing diseases are chiefly of an inflammatory nature ; and of these the most fatal is consumption of the lungs, which, of late years, has swept off about a sixth of the number on the lists of mortality. The influenza extended over the whole country in the year 1807, and few persons escaped its attack.* The dysentery is sometimes epidemical in the summer of years subject to great variations of temperature. Intermit-

* See Medical Repository for 1804, p. 13.

ting and remitting fevers are not so prevalent as formerly. Scrofulous affections are rare. In the marshy places of the western counties a disease, called the *lake fever*, often prevails during the autumnal heats; and Dr Barton* observed many cases of *goitre* in the Onondago Valley, in the neighbourhood of the Mohawk river. The drowned lands in Orange county are so unhealthy during the hot season, that in draining them the most sturdy labourers are overpowered in a few days.†

The population of the city of New York in 1814 was nearly 100,000; and the number of deaths, according to the bill of mortality, was 1974, of which 1062 were males, and 912 females, as follows:

Under 1 year,	-	407	40 to 50	-	213
From 1 to 2	-	100	50 to 60	-	133
2 to 5	-	132	60 to 70	-	91
5 to 10		111	70 to 80	-	84
10 to 20	-	134	80 to 90		35
20 to 30		280	90 to 100	-	2
30 to 40		215	100	-	2

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Of whom 572 died of pulmonary consumption. According to the bill of mortality published by the board of health for the first six months of

* See his Memoir on this subject.

† See Dr Coles's statement of the cases of the fever, &c. in the Medical Repository for 1811, p. 11.

1815, the number of deaths was 1097, of which 329 were occasioned by this disease. Its ravages are chiefly confined to persons in the vigour of age of both sexes, but more particularly to females, which is probably owing to imprudent dress during the excessive variations of temperature. Notwithstanding the annual ravages of this disease, and the occasional return of dysentery, of yellow and intermitting fever, we must not infer that the climate, in its nature, is unfriendly to health. In the villages and country places the cultivators generally arrive at a good old age, retaining to the last moment the full use of their faculties. Of this I saw several remarkable instances in the town of Kinderhook, situated on the east side of the Hudson River, 140 miles north of New York, where Isaac Nosburgh died at the age of 105 ; three brothers of the same name at the age of ninety, and a sister at ninety-three. Mrs Pryn of the same place, in 1802, had reached her eighty-fourth year, and was then in excellent health ; and two slaves, the one a black man, a native of the place, belonging to Mr Nosburgh, the other an African, were supposed to have lived more than a century. * In other towns there are many similar instances of longevity.

The pestilential, or yellow fever, has never prevailed except in the city of New York, and has en-

* Medical Repository for 1803, p. 10.

tirely ceased since the year 1805, when rigorous measures of precaution were first enforced by the board of health. In 1803 it prevailed from the middle of July to the 1st of October, and the deaths occasioned thereby were nearly 700.

The immoderate use of ardent spirits is one of the great causes of premature death. In the city of New York they are retailed in 1600 grocers' shops, and at so cheap a rate, as to be within the reach of all.

History.—At the time of the discovery of this country in 1608, by Hudson, the celebrated English navigator, it was inhabited by the Indians known by the name of the *five nations*,* who, on account of the advantage of fishing, lived on York or Manhattan Island, and along the borders of the Mohawk and Hudson Rivers. Driven therefrom by the Dutch settlers, to whom the country was sold by the discoverer, they made frequent incursions from their northern retreat, and obliged the English intruders to seek refuge in the province of Jersey, then a part of the colony of Nova Belgia, or New Netherlands, which included all the country from Maryland to New England. The English king, James I., having protested against the sale of this province, it was taken and retaken by the English and Dutch alternately. The progress

* The Mohawks, Senecas, Tuscaroras, Onondagues, and Cayugas.

of the population was also retarded by the transportation of English malefactors under acts of Parliament; and by the great landed possessions or manors granted to a few favourites of the Court. In 1618 the Dutch were driven from the territory by the Governor of the South Virginia Company, Sir Samuel Argall, who attacked and destroyed their plantations. Two years afterwards they were permitted to form an establishment for commercial purposes; and they built on the island of Manhattan, at the mouth of the river Hudson, a town which they called New Amsterdam, and 140 miles above Fort Orange, now the city of Albany. In 1664, when the court of England resolved to declare war against Holland, they were again expelled by an armed force, consisting of a squadron with 3000 troops, acting under Sir Robert Carre, which they afterwards defeated, and returned in triumph in 1673. The country was restored to the English by the treaty of Breda, under whose jurisdiction it remained till the period of the revolution.

These unfavourable circumstances operated so powerfully, that, notwithstanding the fertility of the soil, and the advantages of commercial situation, the inhabitants in 1755 amounted only to 100,000, while, at the same period, those of the small province of Connecticut exceeded this number by nearly one-third. * Of late years the increase of

* Smith's History of New York.

population, of agriculture, manufactures, commerce, and industry of every kind, is almost incredible.

The inhabitants having successfully resisted the stamp act in 1765, were deprived of the right of representation in the Provincial Assembly; but four years afterwards, this Assembly went a step further, and denied the right of Parliament to tax the inhabitants. In the revolutionary war, which commenced in 1776, this province was the theatre of many important military events.

Civil or Administrative Division of the State of New York, with the Population of each County and Chief Town, in 1810, the year of the last enumeration.

Counties.	Townships.	Population.	Chief Towns.	Population.
Albany,	8	34,661	Albany,	9,356
Alleghany,	5	1,942	Angelica, tp.	439
Broome,	6	8,130	Chenango, tp.	225
Cattaraugus,	1		Olean, tp.	458
Cayuga,	10	29,843	Auburn, tp.	500
Chataouque,	2		Chataouque, tp.	1,039
Chenango,	14	21,704	Norwich,	225
Clinton,	5	8,002	Plattsburg, tp.	3,112
Columbia,	11	32,390	Hudson,	4,048
Cortlandt,	6	8,869	Homer,	350
Delaware,	14	20,303	Delhi, tp.	2,396
Dutchess,	16	51,363	Poughkeepsie,	1,800
Essex,	11	9,477	Elizabeth town, tp.	1,362
Franklin,	4	7,617	Ezraville,	767
Genessee,	10	12,588	Batavia,	200
Greene,	7	19,536	Catskill,	1,000

Counties.	Townships.	Population.	Chief Towns.	Population.
Herkimer,	10	22,046	Herkimer, tp.	475
Jefferson,	12	15,140	Watertown,	250
King's,	6	8,303	Flatbush, tp.	1,159
Lewis,	7	6,433	Martinsburg,	150
Madison,	11	25,144	Cazenovia,	500
Montgomery,	15	41,214	Johnstown,	605
New York,	1	96,373	New York,	96,373
Niagara,	4	8,971	Buffalo,	500
Putnam,				
Oneida,	26	33,792	Utica,	1,500
Onondaga,	13	25,987	Onondaga,	525
Ontario,	24	42,032	Canandaigua,	685
Orange,	11	34,374	Newbury,	2,000
Otsego,	21	28,802	Otsego,	550
Queen's,	6	19,336	Northempstead, tp.	2,750
Rensselaer,	13	36,309	Troy,	2,640
Richmond,	4	5,347	Richmond,	100
Rockland,	4	7,758	Clarkstown, tp.	1,996
Saratoga,	14	33,147	Saratoga,	
Schenectady,	4	10,201	Schenectady,	2,000
Schoharie,	8	18,945	Schoharie,	125
Seneca,	7	16,609	Ovid, tp.	4,535
Steuben,	9	7,246	Bath,	250
St Lawrence,	12	7,885	Ogdensburg,	350
Suffolk,	9	21,113	Riverhead, tp.	1,711
Sullivan,	7	6,108	Thomson, tp.	1,300
Tioga,	9	7,899	Spencer, tp.	3128
Ulster,	13	26,576	Kingston,	750
Warren,				
Washington,	21	44,289	Salem,	280
West Chester,	21	30,272	Bedford, tp.	2,374
<hr/>		<hr/>		
47	452	959,049		

Constitution.—The constitution of this state

was established, by the convention empowered for that purpose, in 1777, and afterwards revised and amended in 1801. It consists of two legislative bodies,—a senate and house of assembly. The members of *assembly* are elected annually by ballot, in the different counties, by electors, who must be freeholders, to the value of fifty dollars, or persons of full age, residents therein, who have rented tenements of five dollars yearly value, and paid taxes six months previous to the election. The *senators*, elected every four years, by districts, are divided into four classes, so that a fourth of the members are renewed annually. The citizens, by whom they are elected, must possess clear freehold estates, to the value of 250 dollars. When the constitution was amended, it was determined, that the permanent number of senators should be 52; and that of the assembly 150; to which they were to be increased at the rate of two members for every year. The ministers of the gospel, and priests of every denomination, are incapable of holding any place or office, civil or military. * The executive power resides in a governor, lieutenant-governor, and council. The last, composed of four senators, is chosen annually by the legislature, one for each of the four great districts, into which the state is divided. The governor, who must be a freeholder of the state, is elected for

* 39th Article,

three years, by persons possessed of freeholds, worth 100 pounds more than the debts charged on them. He is commander-in-chief of the land and sea forces; is empowered to assemble the legislative bodies, and prorogue their session; also to suspend the execution of a sentence, in capital cases, till the sitting of the legislature, provided the offender be not an assassin, or traitor to his country. In concurrence with the council, of which he is president, he has the right of nominating, annually, almost all other officers of the state. His principal duties are to inform the people of the situation of public affairs; to recommend such measures as he may think useful to the well-being of the republic; to treat of current affairs with the civil and military officers; to see that the laws are observed and executed; to expedite such measures as may be resolved on by the legislature; and to correspond on great national subjects with the national congress. In case of impeachment, removal, resignation, absence, or death, all the duties of his office are performed by the lieutenant-governor, until another governor is elected. The lieutenant-governor is chosen in the same manner, and for the same term; and is president of the senate, and has a casting voice when the votes are equally divided. In case of the death of this officer, during his term of service, the senators are empowered to elect one of their own members, *pro hac vice*. The senators, from the state to the general con-

gress, are chosen annually by ballot, by the two houses of assembly; first by a concurrent vote, and, in case of disagreement, by a joint vote; the representatives are chosen by districts, without regard to residence.

All determinations of one house must be approved of by the other, and then submitted to a council, composed of the governor, chancellor, and judges of the supreme court, or at least by two of them, for examination and revision; and the bill must be returned in the course of ten days to the legislative body from whom it originated, accompanied with their comments, observations, or objections, notwithstanding which, it has the force of law, if approved of by two-thirds of the members of the senate and assembly. If a difference of opinion should exist between these two houses, commissaries are chosen in each, by ballot, to examine and determine on the subject of discussion. The legislature is authorized to naturalize, in such manner as they shall think proper, all persons born beyond sea, and without the limits of the United States, who wish to become subjects and residents of the state, to which they must swear allegiance, after having abjured and renounced all foreign allegiance and subjection in all civil and ecclesiastical matters.

The English statute laws, and the acts of assembly under the king's government, which formed the law of the province, on the 19th of April 1775

became the law of the state, but subject to alteration by the legislature. All grants by the king of Great Britain, or under his authority, after the 14th of October 1775, were declared void.

This constitution differs from that of Massachusetts ; 1. In the election of representatives by counties, and not by villages or towns. 2. In leaving the senators in office four years consecutively. And, 3. In the revision of the laws by the council chosen by the legislature.

Judiciary.—The judges, who are appointed by the governor and council, hold their offices during good behaviour, to the age of sixty years. This limitation, which is peculiar to the state of New York, has been censured, as no provision whatever is made for the dismissed judge, who is thrown destitute on the world, at a time of life when he cannot enter into any other line of business. The *supreme court* consists of a chief justice, and four associate judges. * The circuit courts, for opening trials, are held in each county by a single judge; and the whole court meets four times a year, for the purpose of granting new trials, hearing appeals, or setting aside verdicts. The county and mayor's courts, from which an appeal lies to

* The judiciary officers of the United States, for each of the two districts, the northern and southern, into which the state is divided, are: 1. A judge, with a salary of 1600 dollars; an attorney with fees; a marshal and clerk with fees. United States Register, p. 14.

the supreme court, consist of from four to eight associate judges. The trial is by jury. The court of quarter sessions, with criminal jurisdiction, is held in each county, by the county court judges, and has power to try all, except capital cases, namely, murder and arson, which are decided by the court of Oyer and Terminer, held by a judge of the supreme court and his associates.

The chancellor has equity jurisdiction only, and is assisted by a certain number of masters in chancery, who are attached to the court for the purpose of reference, the settlements of accounts, taxation of costs, &c. The court for the trial of impeachments and correction of errors, held once a-year, consists of the president of the senate, the senators, chancellor, and judges of the supreme court. The recorders of New York and Albany have the power of a judge of the supreme court, in cases of bankruptcy, bail, and taxing costs. Justices of the peace have cognizance in cases of debt, to the amount of twenty-five dollars; and in the city of New York, to the value of fifty. The practice of the supreme court is similar to that of England, but more simple, as the business is executed by one, instead of a number of different clerks. The regular term of study, for councillors, is four years, and three suffice, after three years of practice as an attorney. The fee of a councillor is from 20 to 2000 dollars, and the usual sum given for his opinion, concerning any case of litigation, is

from 15 to 20 dollars. The profits of the profession of lawyers, of the greatest reputation and practice, are from 14,000 to 20,000 dollars a-year. Notaries, whose proper employment is the authentication of papers, may also act as lawyers. Fraud, in this profession, is punished by erasing, from the list, the name of the offender, or striking him off the roll. The number of lawyers has, lately, increased to a degree disproportionate to the population; and it is to be feared, that some of the profession are as active in fomenting as in reconciling differences between parties. The legal code has also grown to a wonderful size. In a period of thirty-five years, ending in 1813, 3443 chapters of laws have been published, some of which contain fifty octavo pages. In 1796, the criminal laws of this state underwent material alteration. Corporal punishment was abolished. No crime, except treason, could, in future, incur the forfeiture of property. Capital punishment was no longer to be inflicted, except in the case of treason and of murder, and arson of an inhabited house.

A great improvement in criminal jurisprudence is the establishment of a state prison, or penitentiary, at the city of New York, on the east bank of the Hudson river, where great crimes, rape, robbery, burglary, sodomy, and forgery, are punished by imprisonment for life; and lesser offences, for a term of years not less than three, nor more than twenty. In 1814, the number of prisoners was

494; men, 419; women, 75. Of 213 criminals, there were 153 white men; 11 white women; 23 black men; 26 black women,—173 were Americans, and 40 were foreigners: 156 were convicted for grand larceny; 26, forgery; 7, burglary; 6, assault and battery; 2, arson; 1, bigamy; 2, breaking prison; 1, felony; 3, highway robbery; 1, misdemeanour; 3, perjury; 3, rape; 1, robbery; and 1, unnatural crime,—19 were condemned for life.

The expence of the prison, in April 1817, amounted to nearly 50,000 dollars *per annum*, exclusive of that for conveying the convicts thither. The number of prisoners was about 500 during the last five years, in which period, 740 convicts were pardoned, and 77 discharged by the expiration of their sentences. Of those, who, within that same time, were committed for second and third offences, about two-thirds had been discharged from their former sentences by pardon; and of 23, the whole number convicted of second and third offences, in 1815, 20 had been previously pardoned, and only three discharged by the ordinary course of law.*

The new state prison, at Auburn, will have 276 feet in front, and 40 in depth, with wings of the same extent. It is to be three stories in height, built of stone, capable of containing 1000 convicts at useful labour; the walls to inclose five acres.

* Report to the Legislature, by commissioners appointed to investigate the concerns of the prison.

On the 1st of May 1817, there were confined

In the debtors' prison,	-	-	300
In bridewell,	-	-	127
In the penitentiary, at Belleville,	-	-	159
In the state prison,	-	-	752
			<hr/>
			1318

Military Force.—By the 40th article of the constitution, it is determined, that every man who enjoys the protection of society ought to be prepared and willing to defend it; and, consequently, that the militia of the state shall be armed and disciplined, and in readiness for service, in peace as in war. The militia is formed by a general requisition, and consists of every able-bodied male inhabitant, between the age of eighteen and forty-five, the Quakers excepted; who, on account of their religious aversion to arms, are exempted therefrom, paying to the state a sum equivalent to their personal service. There are five divisions of infantry, commanded by five major-generals, and these divisions form forty-two brigades, commanded each by a brigadier-general. The brigades are subdivided into 156 regiments, commanded by lieutenant-colonels, the battalions by majors, and the companies by captains.

The militia, in 1814, according to the report of the adjutant-general, was as follows: Enrolled infantry, 86,597; artillery, 4717; cavalry, 4462; in all, 95,776; forming one division of cavalry.

one of artillery, and eight of infantry. The serviceable muskets were 28,237 in number; the pieces of artillery, 636; the field-pieces, 63; the swords and pistols, 3679. In April 1817, according to the report of the same officer, the militia, exclusive of 20 companies, of which no return was made, amounted to 106,880. The governor is, by his office, commander-in-chief of the militia, and all military officers are commissioned by him.

Finances.—The revenue of the state arises from the sale of public lands, (of which a million of acres is yet unsold,) from funds invested in the stock of banks, securities on lands, loans to individuals and public establishments, and a direct tax imposed during the late war. The comptroller's statement of the finances for the year 1815 was as follows:

Funds of the state,	-	4,244,638 dollars.
Annual revenue,	- -	317,745
Ordinary expences,	- -	472,905
Receipts of the treasury during the last		
year,	- - -	1,336,218
Appropriations during the same period,		1,310,912
School fund,	- - -	861,457
Revenue from this fund,	-	57,539
Fund for the promotion of literature,		18,269

In the acts for the erection or extension of the charter of the banks, the state has reserved the privilege of borrowing from them at five and six *per cent.* interest. It appears that, since the year 1806,

the state has appropriated 160,000 dollars for the purchase of arms, ordnance, military stores, arsenals, magazines, &c. ; and 100,000 for the defence of the harbour of New York ; and that, notwithstanding these expences, no state tax has been called for since the year 1800. The county and town taxes are so small, as not to exceed a mille on the dollar, or a thousand part of the value. *

The salaries of the chief officers of the state were fixed by the legislature, in 1817, as follows :

	Dollars.		Dollars.
The governor, -	5,000	Ditto, Eastern District,	200
The chancellor,	4,500	Clerk of the supreme	
Judges of supreme		court, New York	
court, -	4,500	city, -	2,000
Reporter, - -	1,500	Ditto, Albany, -	2,000
Secretary of state,	1,500	Ditto, Utica, -	2,000
Deputy secretary of		Judge of probate,	250
state, -	1,000	Superintendent of salt	
Surveyor-general,	2,000	springs, -	800
Attorney-general,	1,250	Mayor of the city of	
Treasurer, -	1,500	New York, -	5,000
Treasurer's clerk,	800	Recorder, -	3,000
Adjutant-general,	800	Health physician, New	
Commissary-general,	800	York, -	2,500
Governor's private se-		District attorney, ditto,	3,000
cretary, -	300	Clerk of the sittings,	
Assistant-commissary,		ditto, -	1,500
New York, -	500	Clerk of the sessions,	
Ditto, Western District,	300	ditto, -	1,500

* Spafford's Gazetteer, p. 31.

The two last are obliged on oath to account with the comptroller for the income of their offices, over and above the salaries.

Expence of Living.—The price of every article has augmented with the population; and the manner of living, since the revolution, has undergone a considerable change; especially in the towns and villages, where the expensive customs of Europe have been gradually introduced. The annual consumption of Madeira, Porto, and Bourdeaux wines is now very great, so that these have almost become articles of necessity. Living is much more expensive in the towns than in the country; but in the latter it is everywhere nearly the same, owing to the great facility of water communication. The price of lands and wood has gradually augmented. The inhabitants of the country are generally clothed in a comfortable manner; and no person is ever seen without shoes and stockings.*

* The following table, though not rigorously exact, will give an idea of the price of articles necessary to life, at New York city:

	D.	C.		D.	C.
The bushel of wheat,			Turnips,	-	0 31
June 1816,	1	78*	Beans,	-	0 62
Corn,	-	1 0	Oats, 1816,		0 65
Barley, 1816,	1	6	The barrel of best flour,	8	35
Potatoes, 1815,	0	25	Beer,	-	6 50

* In Jefferson county, the price during and since the war has been two dollars, and ten years previous to that period it was never less than one dollar.

Statement of the Valuations of Lands, Lots, with their Improvements, Dwelling-houses, and Slaves, within the several Counties of the State of New York, as revised and settled by the Board of Principal Assessors, with the Amounts of the Quota of each for the Year 1814.

Valuation of Real and Personal Estates.

Counties.	1814.	1815.	Quota for 1814	
	Dollars.	Dollars.	Dolls.	Cents.
Suffolk,	5,798,557	6,834,906	18,265	46
Queen's,	5,987,130	5,587,120	18,859	46
King's,	4,823,550	2,568,144	15,194	18
New York City and				
County,	56,320,852	81,636,512	177,410	68
West Chester,	10,030,623	12,194,164	31,596	46
Dutchess,	15,884,913	19,171,388	50,037	48

	D. C.		D. C.
The barrel of pickled		The pound of butter,	
cod-fish, -	5 25	June 1816, -	0 27
Oneida eels, 10	0	Cheese, 1815,	0 7
Salmon, - 15	0	Ditto, June 1816,	0 15
The gallon of whis-		The cord of wood, 1815,	1 25
ky, 1815, -	0 45	Boarding in the coun-	
Cider, -	1 50	try, per week,	2 0
The pound of beef,		Boarding in the towns,	4 0
mutton, veal, and		Ditto, 1816, -	5 0
venison, 1815,	0 4	Mechanics' house rent	
Bacon, 1815,	0 12	in towns per year,	
Butter, -	0 12½	1815, -	80 0

The interest on money is six per cent.

Counties.	1814.	1815.	Quota for 1814.	
	Dollars.	Dollars.	Dolls.	Cents.
Putnam,	1,703,581	2,098,099	5,366	28
Orange,	7,126,782	8,213,688	22,049	36
Rockland,	1,966,748	1,857,028	6,195	26
Ulster,	4,759,809	4,273,970	14,993	40
Sullivan,	1,718,405	1,529,943	5,412	98
Schoharie,	3,658,131	3,109,564	11,523	11
Columbia,	9,927,107	7,561,759	31,270	39
Rensselaer,	9,330,556	8,330,725	29,391	25
Washington,	8,648,088	8,018,924	27,241	48
Saratoga,	6,840,678	7,108,169	21,863	14
Franklin,	691,785	598,575	2,179	12
Clinton,	1,519,440	1,506,281	4,726	4
Essex,	1,077,550	1,067,539	3,394	23
Albany,	13,399,645	13,716,315	42,208	88
Schenectady,	1,958,679	2,169,256	6,169	84
Montgomery,	9,550,187	7,761,406	30,083	9
Herkimer,	3,857,267	3,111,113	12,150	39
Oneida,	9,738,526	9,454,468	30,676	36
Lewis,	1,658,581	1,773,975	5,224	53
Jefferson,	3,384,580	4,325,890	19,661	43
St Lawrence,	3,011,811	2,447,416	9,487	20
Otsego,	6,253,537	5,547,648	19,693	64
Chenango,	3,830,976	3,810,126	12,067	57
Madison,	3,831,950	4,019,552	12,070	64
Steuben,	1,913,960	2,030,757	6,029	0
Tioga,	2,102,046	2,145,279	6,621	44
Broome,	2,217,304	2,258,764	6,984	50
Onondaga,	4,104,408	3,610,369	12,928	89
Cortland,	1,690,969	1,742,640	5,326	55
Cayuga,	5,495,384	4,865,299	17,312	3
Seneca,	3,641,135	3,825,921	11,469	58
Ontario,	11,267,143	12,657,968	35,491	50
Alleghany and Cat-				
taraugus,	1,528,017	1,578,321	4,813	25

Counties.	1814.	1815.	Quota for 1814.	
	Dollars.	Dollars.	Dolls.	Cents.
Chatauque,	1,698,253	862,843	5,349	50
Niagara,	5,872,956	2,779,988	12,199	71
Genessee,	6,647,651	4,885,921	20,940	10
Richmond,	853,783	681,368	2,689	42
Greene,	4,054,847	4,279,479	12,772	77
Warren,		1,223,844		
Delaware,	3,642,468	3,274,800	11,473	77
Total,	273,120,900	293,882,224		

The number of dwelling-houses, by the returns of the assessors, subject to taxation, is 127,400 ; exempt from taxation, 518 ; averaging about nine inhabitants to each dwelling-house.

This state's quota of the United States' direct tax, viz. 860,283, would operate as a tax upon the above assessment, at the rate of thirty-one cents and five milles upon every hundred dollars.

Internal Government.—The first municipal officer of the large incorporated cities is a mayor, appointed by the council of appointment. The next in authority are the aldermen, who are chosen by the citizens. The incorporated smaller towns are under the direction of a president and trustees. Each town and county has a separate civil jurisdiction. The town officers elected annually are—a town-clerk, assessors, collectors, constables, overseers of the poor, and commissioners and overseers of the highways and roads. The tax list is made out by the supervisors of the respective towns, ac-

according to the statement of the board of assessment. The sheriffs and judges of the county courts are county officers ; the treasurer and clerk are appointed by the government. The election for governor, lieutenant-governor, members of the legislature, and representatives to congress, takes place throughout the state on the same day—the last Tuesday of April. The votes of each town in the county are returned to a county officer, by whom they are transmitted to the seat of government.

Religion.—The free exercise and enjoyment of religious profession and worship is secured by the constitution, which declares, “ that we are required by the benevolent principles of rational liberty, not only to expel civil tyranny, but also to guard against civil oppression and intolerance, wherewith the bigotry and ambition of weak and wicked priests and princes have scourged mankind. No minister of the gospel, or priest of any denomination, can ever hold any civil or military office or place within the state.” * It was enacted by the legislature in 1804, that all religious denominations may regulate their temporal concerns by a corporate body of trustees, to consist of from three to nine members ; and that a congregation may hold estates, of which the annual revenue does not exceed 3000 dollars.

The different denominations are—English Pres-

* Articles 38th and 39th.

byterians, Dutch Reformed, Congregationalists, Episcopalians, Quakers, Methodists, Baptists, German Lutherans, Moravians, Roman Catholics, Shakers, Jews, Universal Friends, * Anabaptists, and Scotch Cameronians. The Presbyterians are the most numerous. The next are the Episcopalians, who, in 1811, had forty-two churches and forty-seven clergymen, and probably have now twice the number. According to the report of the general convention of the Baptists, held in Philadelphia in May 1817, the number of their churches was then 321 ; that of members, 23,558 ; and there was no return from five churches. In 1814, the legislature of the state granted the sum of 4000 dollars to the Asbury African church, in the city of New York, for the payment of a debt and the establishment of a school. The whole number of ministers is about 500, which, according to the calculation of Mr Beecher, ought to be doubled for a population of 1,000,000. They are supported by the voluntary contributions of the people, raised by subscription, or by a tax on the pews ; except the Dutch and Episcopalian churches, which have property in different places to a considerable amount.

Slaves.—The legislature, by an act passed the 31st day of March 1817, have declared the final and total abolition of slavery from the 4th day of July 1827, on which day, every negro, mulatto,

* Or followers of *Jemima Wilkinson*.

or mustee, born before the 4th of July 1799, is to be free ; and those born after that date—if males, are also to become free at the age of twenty-eight years—if females, at twenty-five years.

Duelling.—By a law of the legislative body, passed the 5th of November 1816, any person who challenges another to fight a duel, with any weapon, or in any manner, the probable issue of which may result in death, or accepts a challenge, or who knowingly is the bearer thereof, is deemed guilty of a public offence ; and, if convicted, is deprived of all civil rights—is “ rendered incapable of holding or being elected to any post of profit, trust, or emolument, civil or military, under this state ;” and every member of the legislature, every public officer, civil or military, (except town officers,) and lawyers, are obliged to swear, that they have not been, that they will not be, guilty of any violation of this act.

Education.—*Schools, Colleges.*—Since the establishment of incorporated academies, the sons of farmers, merchants, and professional men, receive a regular classical education in those seminaries, where the course of studies is similar to that of Europe. Before the revolution, a great number of the inhabitants could neither read nor write, and there are still some of this description, though an increasing desire of being able to read the Scriptures, the laws, newspapers, and political pamphlets, and of becoming a magistrate, or justice of the

peace, has nearly overcome this ignorance, so common in European countries. The state fund for the support of schools amounted, in 1811, to 483,326 dollars, affording an annual revenue of 36,427 dollars. In the year 1815, the number of common and primary schools in the state was 2621 ; the number of scholars, 140,106 ; the expence of instruction, 55,720 dollars. The city and county of New York, not comprehended in the act for school districts, and the city of Albany, are not included in this return, which, besides, was considered as far short of the real number of children, supposed to amount, at least, to 200,000 in 5000 districts, in which common schools are established. In April 1811, the superintendent of the common schools reported to the legislature, that there was at this period within the state, exclusive of the city and county of New York, at least 5000 common schools, which have been formed and kept up under the act for their establishment, and that the number of children annually taught in them exceeds 200,000 ; that the sum distributed the preceding year from the common school fund was about 65,000 dollars. These funds are placed at the disposal of the legislature, and the colleges and academies are under the direction of a board of agents,—a corporate body appointed by the government, of which the governor and lieutenant-governor are members *ex officio*. The officers of this body are a chancellor and vice-

chancellor, a treasurer and secretary, who meet annually in the chamber of the assembly, after the meeting of the legislature. They are empowered to incorporate colleges and academies ; to confer degrees of a higher order than those of master of arts, or doctor of medicine ; and to distribute the funds, as they may judge proper, among the different seminaries. It is their duty to visit the schools and academies once a-year, and to make a report thereon to the legislature. For these reasons, no regent or inspector of colleges can be president or trustee of any college or academy.

No academy can be incorporated, unless endowed with a fund producing an annual revenue of 100 dollars ; and no college can be established, unless its permanent funds amount to 50,000 dollars, giving an income of 3500. No religious confession or test is required from presidents or professors. The funds annually distributed among the incorporated academies, in proportion to the number of students, amount to 2000 dollars. In the course of the year 1814, the legislature of this state gave about 100,000 dollars to Union College ; 50,000 to that which bears the name of Hamilton ; * to Columbia College, the Botanic Garden, valued at 70,000 dollars ; 30,000 to the College of Physicians and Surgeons ; and 12,000 to the Historical Society of New York.

* In honour of the late General Hamilton.

Columbia College, formerly king's college, (now under the direction of the regents of the university of New York, who are appointed by the legislature,) was founded in 1754, and in 1787 was placed under the care of twenty-four trustees. The funds, arising from the voluntary donations of the state and of individuals, * give an annual revenue of 4000 dollars. The faculty of arts consists of the president, and a professor of moral philosophy, of classical literature, and Grecian and Roman antiquities, of natural philosophy, astronomy, geography, and chronology, of logic, rhetoric, and belles lettres. The office of president is of an honorary nature, as he is only charged with a general inspection. The provost has a general superintendence, and instructs the senior class in literature and criticism. The salary of the president is 500 dollars *per annum*, besides 150 which he receives for the fees of degrees. The professor of mathematics has 2500 dollars; of Latin and Greek, 2500; of logic and ethics, 2500, with each a house and garden. The professor of chemistry has no fixed salary, but is paid by the class. The college *library* contains about 6000 volumes.

The *botanic garden*, situated at the distance of four miles from the city, was lately purchased from the proprietor, Dr Hosack, by the state, for the

* Joseph Murray, a lawyer, bequeathed his library and fortune to this college, amounting to 25,000 dollars.

sum of 73,000 dollars, and given to the college, on condition that it should be removed to its vicinity ; it contains upwards of 2000 plants. The annual vacation of three months commences the 1st of August. In 1811, there were 103 students in the four classes of freshmen, sophomore, junior, and senior. The *faculty of medicine*, belonging to this institution, was incorporated in 1807, under the title of “ The College of Physicians and Surgeons ;” and, in 1813, the new and old college were united under the title of “ The College of Physicians and Surgeons of the University of New York,” and placed under the direction of the regents of the university, by whom the professors are appointed, who are also trustees and members of the college. The expences of medical education are as follows : Hospital ticket, 10 dollars ; professors from 15 to 25 each. There are two at 25, two at 20, and the others at 15 dollars. Good board costs from four to five dollars *per* week. The period of study is proportioned to the previous acquirements of the student. There are nine professors of the faculty of physic : 1. Of anatomy, surgery, and physiology. 2. Theory and practice of physic and clinical medicine. 3. Chemistry and materia medica. 4. Obstetrics and the diseases of women and children. 5. Therapeutics and clinical medicine. 6. Institutes of medicine. 7. Natural history, including mineralogy, botany, and zoology. 8. Medical botany and jurisprudence.

In 1811, the degree of Doctor of Medicine was conferred on eight students. There is an extensive anatomical collection, and a chemical apparatus.

The college opens on the first Monday in November, and the session closes on the 1st day of March. The candidates for graduation must be twenty-one years of age, and produce certificates of having attended, during one session at least, the lectures of the college, and the practice of the New York hospital. The first examination is by the board of professors only; the second before the trustees, to whom the candidate may appeal if he think himself aggrieved. When approved of, his name is sent to the regents of the university, who send a diploma, signed by the chancellor, and afterwards by the professors. The candidate then presents a written or printed dissertation, of his own composition, on some medical subject, to one of the professors, on which he is examined in the college hall, on the first Monday in May, and receives his degree on the ensuing day at the public commencement.

The college edifice, situated at the distance of 150 yards from the Hudson, is of stone, and contains 48 chambers, with a dining-room, chapel, library, &c.

Union College, incorporated in 1794, by the regents of the university, under the direction of twenty-four trustees, is liberally endowed, and principally by donations from the state. The pro-

fessors are: 1. Of the Greek language. 2. Latin. 3. French, Spanish, and Italian. 4. Mathematics and natural philosophy. 5. Chemistry. 6. Rhetoric. In 1796, the funds amounted to 42,422 dollars, and 1604 acres of land. The legislature afterwards granted, by lottery, 90,000 dollars. The number of students is about 130. The annual commencement is on the fourth Wednesday of June, and there are three vacations.

Hamilton College, in Oneida county, established in 1812, has thirty or forty students. There is a president, two professors, and two tutors, namely, 1. A professor of the Latin and Greek languages. 2. A professor of chemistry, mineralogy, and natural philosophy. The annual commencement is on the third Wednesday of September, and there are three vacations.

The Military Philosophical Academy, at West-point, founded in 1802, consists of, 1. A superintendent, who is brigadier general. 2. A professor of natural and experimental philosophy, with an assistant. 3. Professor of mathematics and assistant. 4. Professor of engineering and assistant. 5. Teacher of the French language. 6. Teacher of drawing. 7. Assistant sword master. 8. A professor of ethics, who is chaplain. 9. A surgeon. The number of cadets is 250.

Incorporated Academies.—Clinton academy at East Hampton, on Long Island. Erasmus Hall academy at Flatbush, Long Island. Kingston aca-

demy in Ulster county. Columbia academy at Kinderhook. Hamilton Oneida academy. North Salem academy. Oxford academy. Union Hall academy. Farmers' Hall academy. Montgomery academy. Washington academy. They have from 50 to 120 scholars each.

Learned Societies.—The *Literary and Philosophical Society of New York*, established in 1815, has published the first volume of its Transactions. The Agricultural Society of New York, now entitled “*The Society of Useful Arts*,” and of which the members of the legislature are *ex officio* members, has published three volumes. Other similar societies have been lately established in Dutchess and in Sullivan counties. The first has published several memoirs. The *State Medical Society* lately established, of which the members of the legislature are *ex officio* members, is composed of deputies, or delegates, from the several county societies, who assemble annually at the seat of government, and send deputies to the county societies. The *Historical Society*, established at the city of New York, and incorporated in 1809, has published two volumes in an octavo form. The library contains more than 8000 volumes and tracts relating chiefly to American history and literature. In March 1817 this society passed a law for the establishment of lectureships on zoology, geology, botany and vegetable physiology, mineralogy, chemistry,

and natural philosophy. In 1814 this society received from the legislature a grant of 50,000 dollars, and an annuity of 500. An *Academy of Arts* has also been established ; the members have purchased a collection of busts in plaster ; and they received a present of valuable engravings from the late Emperor Napoleon. The *Public Library* of New York, containing about 15,000 volumes, is open to the public ; but books can only be taken out by the owners of shares, 500 in number. The *Free School Society* at New York, for the education of poor children, who do not belong to, or are not provided for by any religious society, was incorporated in 1805, and has received different donations from the legislature, amounting to 12,000 dollars, besides an annual donation of 1000, commencing in 1807, and another of 500 commencing in 1811. From the corporation of the city it has received money and ground to the amount of 12,000 dollars. The free schools established under this act, now five in number, contain about 800 scholars, of which nearly one-half are admitted, and as many discharged every year. The annual expence is estimated at three dollars each. In the “ *Orphan Asylum Society*,” on the Lancasterian plan, ninety children are educated. The “ *Manumission Society*,” for people of colour, educates 100 scholars. The principal object of “ the *Economical School Society*” is the instruction of children of the refugees from the West

Indies. At Albany there is a free school called the "Albany Lancaster Society," and also a school society for the benefit of Africans, in which the average number, in 1816, was found to be about 200 of every age from four to seventy-eight. The "*Female Association School*," in which the Lancasterian plan of education is followed, was established in 1798 by a few females, and incorporated in 1813 by an act of the legislature. During the year 1815, 200 scholars were received, and 190 discharged. The Charitable and Humane Societies of the city of New York, forty in number, are supported with spirit. In 1815 the Orphan Asylum contained fifty-one boys, and forty-two girls; the *City Alms House*, the same year, contained 1043 persons of both sexes, and every age, as follows: White men, 249; White women, 287; Boys, 227; Girls, 192; Black men, 21; Women, 43; Boys, 15; Girls, 6.—In all 1043, including 169 children at nurse. The "*New York Hospital*," in 1815, contained 1595 patients, of which 187 remained at the end of the year.* Besides these there were 151† lunatic patients, and

* Of these 973 were cured; 105 relieved; 30 discharged as disorderly; 116 by request; 16 as incurable; 16 escaped; 152 died; 187 remained the 31st of December 1815.

† Of these 27 were cured; 27 relieved; 14 taken out by friends; 9 died; 74 remaining on the 31st of December. There are accommodations for seventy-five only.

thirty-six women in the lying-in ward. The expenditure for the support and maintenance of the hospital amounted to 34,688 dollars. In 1816, 1622 patients were admitted into the hospital. Its support and maintenance had increased to 39,053 dollars. A new building for insane patients is now erecting, for which the legislature have granted an annuity. The clinical lectures delivered in the hospital are attended by about 130 students. *

The number of *printing establishments* in the state now exceeds 100; and there are about seventy newspapers,† of which six in the city of New York appear daily.

Agriculture.—This science has made rapid progress within these few years, particularly in the county of Dutchess, where it is encouraged by those of the greatest wealth and influence in the state. The introduction of gypsum as a manure has considerably increased the value of land, except near the sea-shore, where, owing to some cause not yet well explained, it has no influence on vegetation. The cereal plants cultivated in the state are maize, winter wheat, rye, black wheat, winter barley, summer barley, oats. The two first are most cultivated. Wheat is generally sown in autumn, and the richest lands are reserved for this

* Official report of this hospital for 1816.

† The first newspaper was published in 1725.

crop. Maize thrives well in a loose, loamy, or sandy soil. Barley is sown in the southern parts ; but the grain is inferior in quality to that of Europe. Buck-wheat yields large products.

The roots and esculent plants are potatoes, peas, beans, pumkins, melons. The filamentous plants are flax and hemp ; the last is found to succeed in rich moist vallies called bottom grounds, some of which have yielded 600 pounds per acre. The fruit-bearing trees generally cultivated are the apple, peach, pear, cherry, and plum trees. The Spitzenberg apple, and that known by the name of *Newton pippin*, are of a superior quality. The peach in the southern parts is produced in such great abundance, that in some places it serves as nourishment for swine ; and it is now found to thrive on the borders of Lake Erie. The vine is successfully cultivated in some of the gardens of farmers. Immense quantities of water-melons are raised throughout the state. The *grasses*, which grow luxuriantly, and afford excellent food for cattle, are the lucerne, white and red clover, blue grass, tall meadow oats, and Timothy grass.* The leaves of maize, and the straw of oats, peas, and barley, are used as winter fodder. The course of husbandry is as follows : spring wheat, oats, barley, peas, rye, and flax, are sown from the middle

* *Medicago sativa* ; *Trifolium pratense* and *Trifolium repens* ; *Poa compressa* ; *Avena elatior* ; *Phleum pratense*.

of April to the 1st of May ; and during the two first weeks of this month the Indian corn is planted, and then potatoes. Wheat, oats, and barley are cut in August, after which the winter wheat is sown. Buck-wheat, which is sown in the beginning of July, is cut in the middle of October, and the Indian corn about the same time.

The following is the average amount of produce per acre.

Wheat, good soil and high cultivation, from 25 to 50 bushels.	
Indian corn, - - -	30 to 60 *
Oats, - - -	40 to 50
Rye, - - -	40 to 50
Barley, - - -	60
Hay (dried) on meadow ground, Timothy	
and red clover, - -	2 to 4 tons.

In the western counties the price of clearing land is seven dollars and a half per acre. The trees are cut in pieces of the length of fourteen feet, and collected in a heap. The price of fencing and clearing is twenty-five dollars per acre. Sometimes the ashes and the first crop are given as a compensation for the clearing ; and the three first crops are considered as equal to the expence of inclosing and fitting the lands for the scythe. But the general practice is to hire labourers by the

* On the Genessee Flats 100 bushels per acre have been raised.

month. Several sorts of wild grape vines grow spontaneously in the woods; but no pains have yet been taken for their cultivation and improvement.

In 1812 the grain, peas, beans, pickled and smoked meat, lard, butter, cheese, and lumber, were computed to amount to 22,600,000 dollars.* The number of horses in the state have been lately estimated at 300,000, that of cattle at 1,000,000, that of sheep at 1,280,000. The horses are smaller than those of the southern states. Cattle in some counties are of a large size. An ox raised in Dutchess county was exhibited in New York in 1802, seven years old, he was twenty hands high at the withers, and eighteen feet from the tip of his nose to the extremity of his tail, and weighed more than 3000 pounds. Cattle are housed from the 1st of December to the 1st of April. The Merino or Spanish sheep, the wool of which is now so valuable, have multiplied to an amazing extent.

Price of Implements of Agriculture.—Oxen per yoke, 70 dollars; a cow, 15; an ox cart, 30; necessary farming utensils, 15; a good log-house,

* Even Mr Pinkerton was surprised to see the lands produce at New York “great plenty of hay, more clover than could be sold, excellent beef, good veal, (the mutton but middling,) pork very fine, turkies very fine, and all sorts of poultry; vegetables in great plenty.”—See his *Tour, &c.* 1st Vol. p. 84. London, 1805.

divided into two apartments, made by hired men, 100 ; a small log-house, twenty feet square, 50 ; a small grist mill and saw mill may be built for 1000 ; * gypsum near the Cayuga Lake, from three to four dollars per ton.

Price of Labour.—Labour per day, 1 dollar ; masons and carpenters, 1 dollar, 50 cents ; mechanics with food, 1 dollar ; smiths' work per pound, 25 cents.

Price of Lands.—The land of the Genessee country, in the year 1794, was sold at 25 cents per acre, and in the year 1800, at 10 dollars. In the month of October 1815, 64,000 acres were sold at New York, of which the highest price was 35, and the lowest 2 dollars. Lands of the tract called the Holland Purchase, extending from the Pennsylvania line to the banks of the Genessee and to Lake Ontario, sell at 3 dollars 50 cents. Of the money five *per cent.* is paid in cash, and the remainder in six yearly instalments, payable from the third to the eighth year, with interest for the last six years, and the interest due from the date of the sale, if the purchaser neglects to make certain improvements the first year. Twenty *per cent.* is allowed for cash. In Ontario county improved farms bring 40 dollars per acre ; uncleared land,

* Estimation by Mr Williamson in 1800, applied to the Genessee country.

5 ; partly cleared, 15 ; land in the vicinity of villages, 10. The Pulteney estate, near Geneva, sells at 3 dollars, with credit from four to seven years, and interest from the date of the sale.

Lands near Utica sell at from 40 to 100 dollars ; improved lands in the neighbourhood of Manlius Square, from 10 to 30 ; lots in Utica village, from fifty to sixty feet in front, and from a hundred to a hundred and thirty in depth, sell from 200 to 1000 dollars ; out-lots of twelve acres for 5000. At Sacket village, lots of half an acre bring from 250 to 1200 ; lots in the village of Canandaigua, twenty-two rods in front and sixty-five deep, having out-lots of thirty acres, sell from 500 to 1000 ; the out-lots from 80 to 100.

On the river St Lawrence and Lake Ontario, two townships, one of 50,000, the other of 70,000 acres, are advertised for sale, by Mr Le Ray de Chaumont, on the following terms : Seven years credit for the principal, the interest paid annually ; allowance of three per cent. per annum on all payments made before they become due ; wheat and potash received in lieu of cash.

Value of lands and houses, as established by the assessors of the direct tax :

In 1799, lands,	-	-	74,885,075
houses,	-	-	25,495,631
			<hr/>
			100,380,706
In 1814 they were valued at	-		232,494,940
			<hr/>
Increase in fifteen years,	-		132,114,234

At the last mentioned period, the average price of lands per acre, including buildings, was fourteen dollars and a half.

Agriculture and Manufactures.—This state, blessed with a fertile soil, and particularly favoured by its water communication, has made uncommon progress in agriculture, manufactures, and commerce. The inhabitants of different districts have vied with each other in opening roads and canals, constructing bridges, erecting corn and saw-mills, and water-machinery of every kind.

Product of Mineral Substances, in 1810.—3,805,000 square feet of glass, value 608,800 dollars; 26,000 pounds of gunpowder, value 10,400; cut nails, 276,932; other articles, value 651,980 dollars.

In 1811 the bloomeries produced about 2000 tons of bar iron. In 1810 there were sixty-nine furnaces, forges, and bloomeries in the state of New York, when the whole number in the United States was 580. The iron manufactured at Ancram is equal, and for some purposes superior, to the Russian and Swedish iron.* The product of cut nail factories, fifty in number, was valued at 300,000 dollars; that of the glass works, ten in number, 1,200,000 dollars; that of the salt springs at Onondago, in Cayuga county, was stated to be 700,000 bushels. In March 1814, the gypsum, at the village of Oswego, amounted to 9500 tons,

* See Dr Beck's Address before the Society for the Promotion of Useful Arts, Albany, 1813.

the salt to 2500 barrels. A chemical laboratory has been lately established in the vicinity of New York city, under the direction of Mr Henry Dreyer, and a cannon factory on Chambers's creek, below Newburg.

Product of Vegetable Substances in 1810.

Cordage, rope-walks 18,	value	538,000 dollars.
Paper, paper mills 28,	- -	238,000
Powder, powder-mills 2,	- -	10,400
Oil, oil mills 28,	- -	49,283
Cloth, woollen, linen and cotton, yards		
9,035,790,	- -	5,682,826
Refined sugar, sugar-houses 10,		420,706 *
Malt liquor, breweries 42,	- -	340,765
Distilled liquor, distilleries 591,		1,299,542 †
Snuff-mills 2.		
Tobacco, pounds 200,000 }		
Snuff, 26,000 }	-	45,200
Silk, 2,240 skeins at Cayuga. ‡		

* June 1817. The board of assessors of the town of Plattsburgh, in the state of New York, estimated the quantity of sugar made from maple, in the preceding season, at 64,000 pounds. At the average price of 16 cents, it would amount to upwards of 10,000 dollars. Walsh's American Register.

† The price, on account of the situation of the lands, is much greater than in the western country.

‡ Price of vegetable productions, at New York city, in June 1816: Ashes, per ton, pot, 209 dollars, pearl, 209; cordage of hemp, per cwt. 10 dollars 50 cents; ginseng, per pound, 47 cents; sassafras, per ton, 22 dollars 50 cents; Seneca root, per pound, 25 cents; sumach, per ton, 55 dollars; snake root, per pound, 50 cents; flax, ditto, 13 cents; hemp, per ton, 200 dollars; honey, per pound, 15½ cents.

In the report of the board of commissioners on the northern or Champlain canal, dated at Albany, in March 1817, it is stated, “ that in the tract of country embracing the borders of Lake George, and the timber land north and west of the great falls in Luzerne, there are annually made and transported to the south, 2,000,000 of boards and planks, and 1,000,000 feet of square timber, consisting of oak, white and yellow pine, beside dock logs, scantling, and other timber, to a great amount.” The white pine is employed for the construction of houses, for boards, shingles, and rails, and is very valuable, on account of its durable nature. Formed into rails or shingles, it will last fifty years. The wood of the cherry and of the white, black, and yellow birch, is employed for cabinet-work ; the bark of the hemlock, oak, and beech for tanning. The most valuable ashes are produced from the sugar tree, black ash, elm, and beech. The pumpkin, which sometimes weighs from thirty to a hundred pounds, affords a nutritious food for cattle and hogs. It is also employed to make a sauce for the table, and a species of small beer, which in warm weather is a refreshing beverage. The fibres of the nettle called *Urtica Whitloui*, which grows to the height of six feet, are found to be finer and stronger than those of hemp or flax ; and the legislature have incorporated a company for the manufacture of this substance into cloth, which resembles that of camel’s

hair. A species of *conferva*, found in great plenty in the waters of the Hudson river, serves for the manufacture of coarse paper. *

Product of Animal Substances.—Leather tan-works 867, value 1,299,542 dollars; hats, from 124 manufactories, 249,035 dollars. †

The farmers' wives and daughters manufacture the bed-clothing and wearing apparel of their families. The gown and petticoat are of stout worsted cloth; the apron of chequered linen. The finest and best wool is reserved for stockings, the second quality for the clothing of the husband and sons; the remainder is wrought into blankets.

The manufactures in 1810, according to the returns of the marshal of the district, amounted to upwards of 33,000,000 dollars; those of 1811 were estimated at 30,000,000, (twelve of which were produced from domestic industry,) and in 1813-4 they were supposed to exceed fifty millions.

Commerce.—Before the revolution, the commerce of this state was already very flourishing. All the productions of New England were success-

* Medical Repository, 3d vol. p. 203.

† Price of furs, &c. in 1816, at New York city. Racoon, per skin, 56 cents; musk rat, 27½ cents; martin, 1 dollar 12 cents; bear, 3 dollars 50 cents; red fox, 1 dollar 12½ cents; bristles, per pound, 37 cents; candles, common, ditto, 24 cents; feathers, live, ditto, 61 cents; hog's lard, ditto, 17 cents; honey, 16 cents; horns, per hundred, 10 dollars.

fully cultivated; and the quality of different kinds of grain was found to be superior. The Indian tribes furnished peltry of various kinds. In the space of twelve months, commencing the 25th of March 1735, 211 sea vessels entered, and 222 cleared from the ports of New York. The chief commerce was with the Antilles, with England and Ireland. The imports from Great Britain amounted to 150,000 pounds sterling, in merchandise of different kinds. The only currency was paper-money, which amounted to 70,000 pounds. The exchange on London, in 1639, was between 70 and 75 *per cent*. The port of New York, on account of its central situation, the facility of inland trade, and short and easy access to the ocean, is become the great emporium of the American commerce, and pays nearly a fourth of the whole revenue, arising from duties on the importation of goods. The average annual amount, including duties on tonnage, exceeds 4,000,000 of dollars. The exports of this state, when a province of England, taken on an average of three years, after the peace of 1763, amounted to 526,000 pounds sterling. The greater part consisted of the produce of the land. The imports amounted to 531,000. In 1750, the whole number of vessels in foreign and coasting voyages, which entered inwards, was 232; the number which cleared outwards, 286. The exports, in 1807, amounted to 26,357,963; and in 1810, they were calculated at 17,242,330

dollars, of which 10,928,753 were domestic, and 6,313,577 foreign. In 1809, the tonnage of the state was 252,065 tons. The exportation of foreign articles has decreased, while those of domestic origin have increased to a great extent. In 1805, the foreign articles amounted to 15,384,833 dollars.* The domestic articles consist of wheat, maize, rye, flour, meal, bread, and biscuit, horses, cattle, beef, pork, tallow, hams, lard, butter, cheese, pot and pearl ashes. The annual quantity of wheat exported has been estimated at 6,000,000 of bushels, though a considerable portion is imported from New Jersey and the New England states. The trade of the Hudson river exceeds 50,000,000 of dollars. That of Lakes Ontario and Erie is rapidly increasing. A cargo of furs, which arrived at Buffalo, in 1811, was valued at 150,000 dollars. The New York Directory, for 1816, contains a list of 952 packet-boats, steam-boats, &c. which ply between that port, and places on the north and east rivers; and also between the eastern and southern parts of the union.

Banks.—The banks are authorized to issue paper to three times the amount of their capital. The following is a statement of the chartered banks of the state, on the 1st of January 1814.

* American Traveller, p. 73, quoted in the Account of American Husbandry, Vol. I. p. 124.

		Capital.
City of New York.	Bank of New York,	1,050,000 dolls.
	Bank of America,	4,000,000
	City bank, -	2,000,000
	Manhattan bank,	2,000,000
	Merchants' bank,	1,250,000
	Mechanics' bank,	2,000,000
	Manufacturing Co.	750,000
	Union bank, -	1,800,000
Newburg.	Bank of Newburg, -	400,000
Goshen.	Orange county bank, -	400,000
Poughkeepsie.	Middle district bank,	500,000
Hudson.	Bank of Columbia, -	160,000
	Bank of Hudson, - -	300,000
Catskill.	Catskill bank, - -	400,000
Albany.	Bank of Albany, -	280,000
	Farmers' and mechanics' bank,	600,000
	State bank, - -	460,000
Troy.	Farmers' bank, - -	300,000
	Troy Bank, - - -	500,000
Lansingburgh.	Bank of, - -	200,000
Schenectady.	Mohawk bank, -	200,000
Utica.	Bank of Utica, - -	800,000
Canandaigua.	Ontario bank, -	500,000
Dollars of bank capital, -		<hr/> 20,850,000

In March 1817, an act was passed to restrain unincorporated banking associations.

Insurance Companies.—There are eleven insurance companies, incorporated by the state, of which the capital amounts to nearly 6,000,000 of dollars.

Steam-Boats.—A steam-boat company is established at New York. Several ply on the north

river, between New York and different towns, as far as Albany; their average progress is about eight miles an hour. The steam-boat Livingston, of 500 tons, launched in March 1817, cost 110,000 dollars.

Public Buildings.—The city-hall of New York, built of marble, is a fine edifice. The expence of building it amounted to 538,000 dollars.

Bridges.—In 1811, the chartered toll-bridges were thirty-six in number, with a capital stock of 509,000 dollars. There are several fine bridges across the Mohawk river. That of the Cohoes, completed in 1795, is 1100 feet long, 24 feet wide, 15 above the water, and rests on 13 stone pillars. The expence of building it was about 12,000 dollars. The Schenectady bridge, over the Mohawk, is nearly of the same length. The Cayuga bridge, across the mouth of the Cayuga Lake, destroyed by the ice, in 1807, was a mile in length, and cost 20,000 dollars. Across the Mohawk river, fifty miles above Schenectady, there is a bridge of one arch, of which the chord is 80 feet. Another at Utica, of a similar construction, 120 feet in length.

Forts.—*Governors' Island*, opposite the city of New York, is strongly fortified, for the purpose of defence against an attack by sea. *West Point*, on the west side of the river Hudson, about sixty miles from its outlet, is also well fortified. *Fort George*, at the southern extremity of the lake of the same name. The *Post of Ticonderoga*, at the point of

communication between Lakes George and Champlain. *Crown Point*, situated on the last, fifteen miles further north. *Fort Stanwix*, on the Mohawk river, 123 miles from its junction with the Hudson. *Fort Oswego*, on the east side of the river of the same name, at its outlet into Lake Ontario, in latitude $43^{\circ} 20'$, and longitude $75^{\circ} 43'$ west from London. *Fort Niagara*, at the entrance of this lake. Several other forts established during the war of the Revolution, on the Hudson rivers, Oneida Lake, and Wood Creek, are now in ruins. In December 1816, the legislature of New York ceded to the United States a small island in Lake Champlain, near its western shore, and about a quarter of a mile south of the Canada line, for the purpose of building a fort, which, it is believed, will effectually command the channel of the lake. The works, which have already made considerable progress, are to cover all the ground visible at low water.

Light-Houses.—There are light-houses at Sandyhook, Eaton's Neck, Sand's Point, Montauk, and Little Gull Island. The keepers' salaries are from 250 to 400 dollars.

Canals.—The canal at the Little Falls of the Mohawk, where there is a descent of forty-two feet, was completed in 1795. The canal at Rome, a mile and a half in length, which connects the waters of the Mohawk with Lake Ontario, was completed in 1797. It is navigable for boats

drawing two feet water, and carrying from three to fifteen tons. The new canal along the Seneca Falls, nearly three quarters of a mile in length, was opened in 1815, and is now navigated by boats seventy feet in length. By means of these canals a boat navigation has been opened through Oneida lake and Oswego river, with the exception of two short portages in the latter, between Schenectady and Lake Ontario, a distance of 203 miles. It is proposed to form a communication between the Hudson river and Lake Erie, by means of a canal which will admit the passage of boats. Several hundred workmen are already employed in this great enterprise.

The *Expence of Water Carriage*, from New York to Albany, by the Hudson vessels, distance 160 miles, is,

For bulky articles, per cwt.	-	40 cents
For heavy articles,	- - -	from 10 to 20
Common freight,	- - -	25 to 30
From Albany to Schenectady, 15 miles,	-	16
Schenectady to Utica, 104 miles,	-	75
From Utica to Oswego, including lockage, dollars, 1,	25	
From Oswego to Fort Niagara, 165 miles,	50	
To Fort Schlosser, by a portage of seven miles,	37½	
From Fort Schlosser to Fort Erie, per cwt.	25	
From Fort Erie to Presqu'île,	-	50
Cabin passengers in the steam-boat from New York to Albany, including board, with excellent accommodation, 160 miles,		
	-	7 dollars.
Cabin passage from Oswego to Fort Niagara,	6	
From Fort Erie to Presqu'île,	-	4

Roads.—In 1811, the number of incorporated

turnpike companies was 135, having a stock of 7,558,000 dollars, and 4500 miles of road were then opened. The great road from Schenectady to Buffalo, on Lake Erie, is 300 miles. That from Albany to Schenectady, 16 miles, cost 100,000 dollars. That from Catskill westward is 100 miles.

Inventions claimed by persons belonging to this State.

1. Fulton's first Steam-boat was launched at New York the 3d of October 1807, to ply on the north river between that city and Albany.

2. Fulton's Steam-frigate, designed for the defence of the port, a double vessel having the paddle wheel in the middle, five feet thick in the sides, bomb-proof, carrying thirty-two long eighteen pounders, and armed with moveable sharp edged knives, and machines spouting hot water.

3. Colonel Stevens' Cattle-boats, a double vessel, on the deck of which are placed from eight to twelve horses or mules, which draw a gin, or toothed wheel work, that communicates motion to paddle-wheels.

4. Lamb's patent ship's Fire-hearth for rendering salt-water fresh, and for lessening the consumption of fuel, producing twenty-four gallons of water per hour.

5. Henrie's (Arthur) Horizontal Water-wheel for alluvial banks of rivers.

Books relating to the History, Geography, &c. of this State.

Vanderdonck's History of New Netherlands. Amsterdam, 1665. A translation from the original Dutch is preparing by the Reverend Dr Basset of Albany.

A Two Years' Journal in New York, by C. W. London, 1701, 12mo.

Danton's Description of New York. London, 1701, in 4to.

Smith's (William) History of New York, comes down to 1732. London, 1757, in 4to.

Williamson's Description of the Genessee country. New York, 1799, in 8vo. pp. 62.

Hardie's (James) Account of the Malignant Fever prevalent in the city of New York in 1798. New York, 1799, pp. 140. And Report of the Committee appointed by the Medical Society on the same subject.

Munro's (Robert) Description of the Genessee country. 1804, pp. 16, with a small Map.

Mitchill's (Doctor S. L.) Picture of New York. New York, 1807, 1 Vol. in 12mo.

Arnell's (David R. D. M.) Geological and Topographical History of Orange County, inserted in the Medical Repository of New York for 1809, pp. 8.

Mitchill's Sketch of the Mineralogical History of the State of New York, in the Transactions of the Agricultural Society, and also in the 4th Number of the 3d Volume of the Medical Repository.

Report of the Commissioners on inland navigation from Hudson's River to Lake Ontario and Lake Erie. New York, 1811, 8vo. pp. 38.

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